

Chapter 8: Recovery/replacement procedures

This chapter contains all software and hardware recovery procedures that can be performed in the field.

These procedures include the following:

- software powerdown and restart
- hardware powerdown and restart
- various hardware replacement procedures
- reinstallation (initializing the system from tape)

Powerdown and restart procedures

Procedure 1: Software powerdown

- 1 Log in as **maint**. The default password is **maint**.
- 2 At the “maint>” prompt, type **powerdown** and press [Return].

The following messages appear:

```
Would you like to power down or reboot?  
Powering down allows you to turn the system off.  
Rebooting will automatically restart the system.  
Enter p to power down, r to reboot, or q to quit:
```

- 3 When prompted to power down, reboot, or quit, type **p** and press [Return] to confirm that you wish to power down.

The following messages appear:

```
Running subcommand 'powerdown' from menu 'machinemgmt',  
MACHINE MANAGEMENT
```

Note: If more than one user is logged in to the system, a list of the logged in users will appear on the screen.

```
Users currently logged in:  
disttech console Oct 26 13:38  
root tty01 Oct 25 21:20  
Once started, a powerdown CANNOT BE STOPPED.  
Do you want to start an express powerdown? [y, n, ?, q]
```

- 4 If software users are logged in, a list appears. Whether a list appears or not, you are prompted to start an express powerdown. If no list appears, or if you do not wish to alert all logged-in users, type **y** and press [Return].

If you wish to alert all users currently logged into the system of the powerdown, type **n** and press [Return]. Then you are prompted to enter the number of seconds the system should wait after the warning message. Type the number of seconds that will allow the users to save their work and log off. Then press [Return].

Procedure 1: Software powerdown (continued)

The information shown in Figure 16 appears on the screen.

```
Shutdown started.      Mon Sep 20 12:17:20 PDT 1993

Broadcast Message from root (console) on sysV68 Mon Sep 20 12:17:21...
THE SYSTEM IS BEING SHUT DOWN NOW ! ! !
Log off now or risk your files being damaged.

INIT: New run level: 0
The system is coming down.  Please wait.
System services are now being stopped.
Terminating Applications
/usr/bin/maint: /dev/tty: cannot create
cron aborted: SIGTERM

The system is down.

NOTICE: System Halt Requested (0)

NOTICE: System secured for powering down.
```

Procedure 2: SBC restart

- 1 Log in as **maint**. The default password is **maint**.
- 2 At the “maint>” prompt, type **powerdown** and press [Return].

The following messages appear:

```
Would you like to power down or reboot?
Powering down allows you to turn the system off.
Rebooting will automatically restart the system.
Enter p to power down, r to reboot, or q to quit:
```

- 3 Type **r** and press [Return] to confirm that you wish to reboot.

The following messages appear:

```
Running subcommand 'reboot' from menu 'machinemgmt',
MACHINE MANAGEMENT
```

Note: If more than one user is logged into the system, a list of the logged in users will appear on the screen.

```
Users currently logged in:
disttech console Oct 26 13:38
root tty01 Oct 25 21:20
```

```
Once started, a reboot CANNOT BE STOPPED.
Do you want to start an express reboot? [y, n, ?, q]
```

- 4 You are prompted to start an express reboot. Type **y** and press [Return].

If you wish to alert all users currently logged into the system of the reboot, type **n** and press [Return]. Then you are prompted to enter the number of seconds the system should wait after the warning message. Type the number of seconds that will allow the users to save their work and log off. Then press [Return].

The information shown in Figure 19 appears on the screen.

Procedure 2: SBC restart (continued)

```
Shutdown started. Mon Sep 20 12:17:20 PDT 1993

Broadcast Message from root (console) on sysV68 Mon Sep 20 12:17:21...
THE SYSTEM IS BEING SHUT DOWN NOW ! ! !
Log off now or risk your files being damaged.

INIT: New run level: 6
The system is coming down. Please wait.
System services are now being stopped.
Terminating Applications
/usr/bin/maint: /dev/tty: cannot create
cron aborted: SIGTERM

The system is down.
NOTICE: System Reboot Requested (0)
```

Reboot messages appear.

Procedure 3: Hardware powerdown

- 1 Complete Procedure 1: Software powerdown.
- 2 When the system confirms that it is secured for powering down, set the MPDU circuit breaker for the Application Module to OFF (down) or press the black power pushbutton on the IPE Module.

The top breaker powers the Application Module next to the MPDU (on the left-hand side facing the AEM). The bottom breaker powers the second module.

Wait 60 seconds before adding or removing hardware, or before trying to restore power.

Procedure 4: Power up the Application Module or IPE Module

- 1 Set the MPDU circuit breaker for the Application Module to ON (up) or press the power pushbutton on the IPE Module.

Reboot messages appear on the system console. If the CCR application has been configured for auto-start, the application starts up automatically.
- 2 If the CCR application does not have auto-start enabled, log in as **maint**.
- 3 At the "maint>" prompt, type **applstart** and press [Return].

For more information on auto-start, refer to the *Meridian Link/Customer Controlled Routing Installation and Upgrade Guide* (NTP 553-3202-210).

Hardware replacement procedures

CAUTION

Risk of hardware damage

Removing or adding hardware in the Meridian Link Module without performing proper powerdown procedures can damage hardware, corrupt application software, or interfere with call processing.

Procedure 5: Replace the Application Module power supply

- 1 Complete Procedure 3: Hardware powerdown.
- 2 Loosen the screws at the top and bottom of the power supply.
- 3 Pull the power supply out of the Application Module.
- 4 Slide the replacement power supply into the Application Module.
- 5 Tighten the screws on the front of the power supply.
- 6 Restore power to the Application Module.

Procedure 6: Replace the Application Module disk/tape unit

- 1 Complete Procedure 3: Hardware powerdown.
- 2 Loosen the screws at the top and bottom of the disk/tape unit.
- 3 Use the ejectors to unlock the disk/tape unit.
- 4 Pull the unit out of the Application Module.
- 5 Slide the replacement unit into the Application Module.
- 6 Tighten the screws on the front of the unit. Be careful not to over-tighten the screws.
- 7 Restore power to the Application Module.
- 8 Go to the reinstallation procedures, discussed later in this chapter.

Procedure 7: Replace the Application Module MVME147/167 SBC card

- 1 Complete Procedure 3: Hardware powerdown.
- 2 Loosen the screws at the top and bottom of the card.
- 3 Use the ejectors to unlock the card.
- 4 Pull the card out of the Application Module.
- 5 Slide the replacement card into the Application Module. Firmly press the middle of the faceplate to seat the card.
- 6 Tighten the screws on the faceplate of the replacement card.
To configure an Application Module with an MVME147 card, follow Procedure 8. To configure an IPE Module or an Application Module with an MVME167 card, follow Procedure 9.
- 7 Restore power to the Application Module by setting the MPDU circuit breaker to ON (up).
The system reboots into the "Console Login:" prompt.

Procedure 8: Configure the Application Module MVME147 SBC card

MVME147 SBC cards may be shipped with the battery backed-up RAM (BBRAM) values set to their original factory defaults. To set the BBRAM information for use with the Application Module, follow the procedure described below.

ATTENTION

Do not press the [Backspace] or [Delete] key when the operating system is not installed, or you may drop out of the procedure into a previous menu or out of the installation procedure altogether. Use # (hold the [Shift] key and press 3) to backspace.

If you drop out of the procedure (into the “#” prompt), start the reinstallation procedure from the beginning.

This procedure assumes that you have completed Procedures 1 and 3, and you have just installed a new MVME147 SBC card using Procedure 7.

- 1 Set the MPDU circuit breaker to ON (up).

The following screen appears.

```
Copyright Motorola Inc. 1989,1990, All Rights Reserved
VME147 Monitor/Debugger Release 2.42 - 8/1/94
CPU running at 25 MHz

FPC  passed test
MMU  passed test

COLD Start

Onboard RAM start = $00000000, stop = $007FFFFF
No offboard RAM detected
```

- 2 When messages begin to appear, type **h**.

Procedure 8: Configure the Application Module MVME147 SBC card (continued)

- 3** Write down the release level of the monitor/debugger (known as firmware level). In Figure 20, this is shown as 2.42. This number will be used later in this procedure.

```
1) Continue System Start-up
2) Select Alternate Boot Device
3) Go To System Debugger
4) Initiate Service Call
5) Display System Test Errors
6) Dump Memory to Tape
Enter Menu #:
```

- 4** The start-up interrupt menu appears. Type **3** and press [Return] to enter the system debugger.

- 5** At the "147-Diag>" prompt, type **iot;t** and press [Return].

The system performs a scan of disk/tape controllers. Figure 22 shows the results of the scan.

```
Scanning system for available disk/tape controllers.....
Disk Controllers Available
LUN  Type      Address  # dev
0    VME147    $FFFE4000  1  SCSI Addr = 0 - CDC      ST1126N      9204
1    VME147    $FFFE4000  1  SCSI Addr = 4 - TEAC     MT-2ST/N50   RV D
      VME147    $FFFE4000  *  SCSI Addr = 7

Align LUNs to SCSI addresses [Y,N] N?
```

- 6** Write down the type of disk drive installed in SCSI address 0. This information is required later in the procedure. (In the example shown above, the drive is a CDC ST1126N.)
- 7** You are prompted to align LUNs. Type **y** and press [Return].

Procedure 8: Configure the Application Module MVME147 SBC card (continued)

```
Disk  Controllers Available
LUN   Type      Address  # dev
0     VME147    $FFFE4000 1 SCSI Addr = 0 - CDC   ST1126N   9204
1     VME147    $FFFE4000 1 SCSI Addr = 1
2     VME147    $FFFE4000 1 SCSI Addr = 2
3     VME147    $FFFE4000 1 SCSI Addr = 3
4     VME147    $FFFE4000 1 SCSI Addr = 4 - TEAC  MT-2ST/N50 RV D
5     VME147    $FFFE4000 1 SCSI Addr = 5
6     VME147    $FFFE4000 1 SCSI Addr = 6
      VME147    $FFFE4000 * SCSI Addr = 7

Save map in NVRAM [Y,N] N?
```

- 8** The LUN results appear. Type **y** and press [Return] to save the map in non-volatile memory.

- 9** At the “147-Diag>” prompt, type **ab** and press [Return] to set autoboot enable.
Autoboot enable prompts appear. Answer them as indicated below.

```
Controller LUN = 00? <cr>
Device LUN = 00? <cr>
Default String = ? <cr>
Boot at Power-up only or any board Reset [P,R] = P? r <cr>
On any board Reset:
Auto Boot from Controller 0, Device 0
```

- 10** At the “147-Diag>” prompt, type **reset** and press [Return].
The SCSI bus reset prompts appear. Answer them as indicated below.

```
Reset Local SCSI Bus (Y, N) N? y <cr>
Automatic reset of known SCSI Buses on RESET (Y, N) = N? y <cr>
Cold/Warm Reset flag (C, W) = C? <cr>
Execute Soft Reset (Y, N) N? <cr>
```

Procedure 8: Configure the Application Module MVME147 SBC card (continued)

- 11 At the “147-Diag>” prompt, type **env** and press [Return].
- 12 Answer the prompts as indicated in Figures 26, 27, or 28, depending on the firmware installed in your system. The firmware release appeared in the start-up messages shown in step 3.

```
Bug or System environment [B,S] = S? s <cr>
SYSTEM V/68 or VERSAdos operating system [S,V] = S? <cr>
Execute/Bypass SST Memory test [E,B] = E? b <cr>

Set VME Chip:
Board ID [0-FF] = $00? <cr>
GCSR base address [0-0F] = $0F? <cr>
Utility Interrupt Mask [0-FE] = $00? <cr>
Utility Interrupt Vector [$20-$30] = $0180? <cr>

Bug or System environment [B,S] = S? <cr>
Execute/Bypass System Memory Sizing [E,B] = B? <cr>
Execute/Bypass SST Memory test [E,B] = B? <cr>

Set VME Chip:
Board ID(def is 0) [0-FF] = $00? <cr>
GCSR base address offset(def is 0F) [0-0F] = $0F? <cr>
Utility Interrupt Mask(def is 0) [0-FE] = $00? <cr>
Utility Interrupt Vector number(def is 60) [8-F8] = $60? <cr>
VMEbus Interrupt Mask(def is FE) [0-FE] = $FE? <cr>
```

Procedure 8: Configure the Application Module MVME147 SBC card (continued)

```
Bug or System environment [B,S] = S? <cr>
Execute/Bypass System Memory Sizing [E,B] = B? <cr>
Execute/Bypass SST Memory test [E,B] = B? <cr>
Set VME Chip:
Board ID(def is 0) [0-FF] = $00? <cr>
GCSR base address offset(def is 0F) [0-0F] = $0F? <cr>
Utility Interrupt Mask(def is 0) [0-FE] = $00? <cr>
Utility Interrupt Vector number(def is 60) [8-F8] = $60? <cr>
VMEbus Interrupt Mask(def is FE) [0-FE] = $FE? <cr>
```

Depending on the previous configuration, the system will reboot automatically or display the "147-Diag>" prompt.

- 13** If the system reboots automatically at this point, type **h** as soon as messages begin to appear on the console.

If the system displays the "147-Diag>" prompt, type **menu** then press [Return].

In either case, the start-up interrupt menu appears.

```
1) Continue System Start-up
2) Select Alternate Boot Device
3) Go to System Debugger
4) Initiate Service Call
5) Display System Test Errors
6) Dump Memory to Tape
Enter Menu #:
```

If you want to load the operating system, go to Procedure 19: Load the operating system tape on an Application Module with an MVME147 card.

- 14** At the start-up interrupt menu, type **1** and press [Return].

The system reboots into the "Console Login:" prompt.

Procedure 9: Configure the Application Module MVME167 SBC card or the IPE Module

MVME167 cards and IPE Modules are shipped with auto-boot no-pause disabled, which means that at boot time, it will pause at the “167-Diag>” or “4120-Diag>” prompt. The following configuration is necessary to enable auto-boot no-pause.

ATTENTION

Do not press the [Backspace] or [Delete] key when the operating system is not installed, or you may drop out of the procedure into a previous menu or out of the installation procedure altogether. Use # (hold the [Shift] key and press 3) to backspace.

If you drop out of the procedure (into the “#” prompt), start the reinstallation procedure from the beginning.

This procedure assumes that you have completed Procedures 1 and 3, and you have just installed a new IPE Module using Procedure 16 or a new MVME167 card in the Application Module using Procedure 7.

- 1 Turn on the power (if it is not already on).

If the “167-Diag>” or “4120-Diag>” prompt appears, go to step 4. If the following messages appear on the console, go to step 2.

```
Copyright Motorola Inc. 1988 - 1992, All Rights Reserved
VME167 Debugger/Diagnostics Release Version 1.4 - 07/22/92
COLD Start

Local Memory Found = 00800000 (8388608)
MPU Clock Speed = 25Mhz
```

- 2 Before the messages start to appear, type **h**. If you are too late, press the Break key.

Procedure 9: Configure the Application Module MVME167 SBC card or the IPE Module (continued)

```
1) Continue System Start-up
2) Select Alternate Boot Device
3) Go To System Debugger
4) Initiate Service Call
5) Display System Test Errors
6) Dump Memory to Tape
Enter Menu #:
```

3 The start-up interrupt menu appears. Type **3** and press [Return] to go to the debugger.

4 At the “167-Diag>”, “4120-Diag>”, or “4120-Bug>” prompt, type **env** and press [Return].

*The environment prompts appear. Answer them as indicated in the following figures. If you make a mistake, quit the process by entering a period (.) at a prompt and answering “n” for the last two questions (Update Non-Volatile RAM/Reset Local System). This brings you back to the “167-Diag>” or “4120-Diag>” prompt. Then type **env;d** and press [Return] to undo the mistakes you made and bring back the original default values.*

Procedure 9: Configure the Application Module MVME167 SBC card or the IPE Module (continued)

```
Bug or System environment [B/S] = S?  <cr>
Field Service Menu Enable [Y/N] = Y?  <cr>
Remote Start Method Switch [G/M/B/N] = B?  <cr>
Probe System for Supported I/O Controllers [Y/N] = Y?  <cr>
Negate VMEbus SYSFAIL* Always [Y/N] = N?  <cr>
Local SCSI Bus Reset on Debugger Start-up [Y/N] = Y?  <cr>
Local SCSI Bus Negotiations Type [A/S/N] = A?  <cr>
```

Note: The prompt “Local SCSI Bus Negotiations Type” may not appear for all MVME167 cards.

```
Ignore CFGA Block on a Hard Disk Boot [Y/N] = Y?  <cr>
Auto Boot Enable [Y/N] = Y?  <cr>
Auto Boot at power-up only [Y/N] = N?  <cr>
Auto Boot Controller LUN = 00? . <cr> (Type a period (.) and press
                                         [Return].)
```

Note: If you changed or reentered any values in Figure 32, you will see two additional prompts, to which you should respond as shown in the following figure.

```
Update Non-Volatile RAM (Y/N)?  y <cr>
Reset Local System (CPU) (Y/N)?  y <cr>
```

Procedure 9: Configure the Application Module MVME167 SBC card or the IPE Module (continued)

Figure 34
Environment prompts (IPE Module)

```
Bug or System environment [B/S] = B?  <cr>
Field Service Menu Enable [Y/N] = N?  <cr>
Probe System for Supported I/O Controllers [Y/N] = Y?  <cr>
Local SCSI Bus Reset on Debugger Start-up [Y/N] = Y?  <cr>
Ignore CFGA Block on a Hard Disk Boot [Y/N] = Y?  <cr>
Auto Boot Enable [Y/N] = Y?  <cr>
Auto Boot at power-up only [Y/N] = N?  <cr>
Auto Boot Controller LUN = 00? .  <cr> (Type a period (.) and press [Return].)
```

Note: If you changed or reentered any values in Figure 34, you will see two additional prompts, to which you should respond as shown in the following figure.

```
Update Non-Volatile RAM (Y/N)?  y <cr>
Reset Local System (CPU) (Y/N)?  y <cr>
```

The system reboots automatically. Messages start to appear on the console. If you want to reload the operating system, go to Procedure 20: Load the operating system tape on an IPE Module or an Application Module with an MVME167 card.

The system automatically boots into the "Console Login:" prompt. The next time you reboot the system, it will no longer pause at the "167-Diag>" or "4120-Diag>" prompt.

Procedure 10: Replace the Application Module MVME333-2 XCC card

- 1 Complete Procedure 3: Hardware powerdown.
- 2 Loosen the screws at the top and bottom of the card.
- 3 Use the ejectors to unlock the card.
- 4 Pull the card out of the Application Module.
- 5 Check the jumpers on the replacement card (see Table 16).
- 6 Slide the replacement unit into the Application Module. Firmly press the middle of the faceplate to seat the card.
- 7 Tighten the screws on the faceplate of the replacement card.
- 8 Restart power to the Application Module.

Block	Jumper setting
K1	2 and 4, 6 and 8, 10 and 12, 13–14, 15–16, 23–24
K2	none
K3	1–2, 5–6, 7–8, 9–10
K4	none
K5	1–2, 3–4
K6	5–6
K7	5–6
K8	none
K9	1–2

Procedure 11: Replace the MVME332XT or MVME332XTS ACC card

- 1 Complete Procedure 3: Hardware powerdown.
- 2 Loosen the screws at the top and bottom of the card.
- 3 Use the ejectors to unlock the card.
- 4 Pull the card out of the Application Module.
- 5 Check the switches and jumpers on the replacement card (see Tables 17 and 18).
- 6 Slide the replacement unit into the Application Module. Press hard in the middle of the faceplate to seat the card.
- 7 Tighten the screws on the faceplate of the replacement card.
- 8 Restart power to the Application Module.

Switch	Position							
	1	2	3	4	5	6	7	8
S1	on	off	off	off	off	on	on	on
S2	off	off	on	on				

Block	Jumper setting
J1	1–2, 5–6, 7–9, 8–10, 11–12, 15–17
J4	1–2

Procedure 12: Replace the NT6D51 transition card

You must remove the Application Module from the AEM to access the transition cards.

- 1** Complete Procedure 13: Remove the Application Module.
- 2** Loosen the screws at the top and bottom of the card faceplate (at the rear of the Application Module).
- 3** Pull the card out of the Application Module.
- 4** Disconnect the ribbon cable to the card.
- 5** Connect the ribbon cable to the replacement card.
- 6** Slide the replacement card into the back of the Application Module. Press hard in the middle of the faceplate to seat the card.
- 7** Install the screws on the faceplate of the replacement card.
- 8** Complete Procedure 14: Replace the Application Module, to reinstall the module.

Procedure 13: Remove the Application Module

You do not need to remove cards, the power supply, or the disk/tape unit from the Application Module before removing the module from the AEM.

- 1** Complete Procedure 3: Hardware powerdown.
- 2** Perform the following steps at the rear of the Application Module:
 - Remove all the covers on the rear of the AEM.
 - Tag and disconnect all external cables to the I/O subpanel.
 - If you have an I/O subpanel, loosen the five spring-loaded screws that hold the I/O subpanel to the I/O assembly of the AEM. Gently set the panel in the back of the Application Module so the cables do not come in contact with the AEM.
 - If you have a universal I/O panel, remove the screws at the edges of the I/O panel. Gently set the panel in the back of the Application Module.
 - Detach the orange logic return ground wire that is screwed to the terminal block at the bottom center of the AEM.
 - Unplug the yellow and gray cable (NT7D52AA) from the power sense card.
 - Unplug the power harness from the connector (P3 or P4) on the rear of the MPDU.
- 3** Loosen the four screws on the front of the Application Module.
- 4** Hold the Application Module by the handles on each side and pull it out of the AEM. Before the Application Module is completely out, take hold of the bar on the top of the Application Module to lift the module out and down.

Procedure 14: Replace the Application Module

If you are replacing the Application Module with a new one, retain the cards, power supply, and disk/tape unit from the original Application Module for use as spare components.

This procedure assumes that you have removed the Application Module using Procedure 13.

- 1** Carefully lift the Application Module to the AEM and slide it into place, making sure that the cabling is directed properly to the I/O panel.
- 2** Tighten the four screws on the front of the Application Module.
- 3** Perform the following steps at the rear of the Application Module:
 - Plug the power harness into the appropriate connector (P3 or P4) on the rear of the MPDU.
 - Plug the yellow and gray cable (NT7D52AA) into the power sense card on the I/O subpanel.
 - Attach the orange logic return ground wire to the terminal block at the bottom center of the AEM.
 - Tighten the five spring-loaded screws that hold the I/O subpanel to the I/O assembly of the AEM.
 - Replace the universal I/O panel using five screws.
 - Connect all external cables to the I/O subpanel.
 - Replace all covers on the rear of the AEM.

Procedure 15: Remove the IPE Module

You do not need to turn off the power on the IPE shelf or Option 11 cabinet before removing the IPE Module.

- 1** Complete Procedure 3: Hardware powerdown.
- 2** Press the black power pushbutton on the IPE Module to turn the power off.
- 3** Use the ejectors to loosen the IPE Module, then take a firmer hold on the IPE Module to remove it.

Procedure 16: Replace the IPE Module

This procedure assumes that you have removed the IPE Module using Procedure 15.

- 1** Ensure that the power pushbutton is in the off position.
- 2** Carefully lift the IPE Module to the IPE shelf or Option 11 cabinet and slide it into place.
- 3** Press firmly on the faceplate to ensure that the module seats into the backplane connections.
- 4** Press the power pushbutton to turn power on.

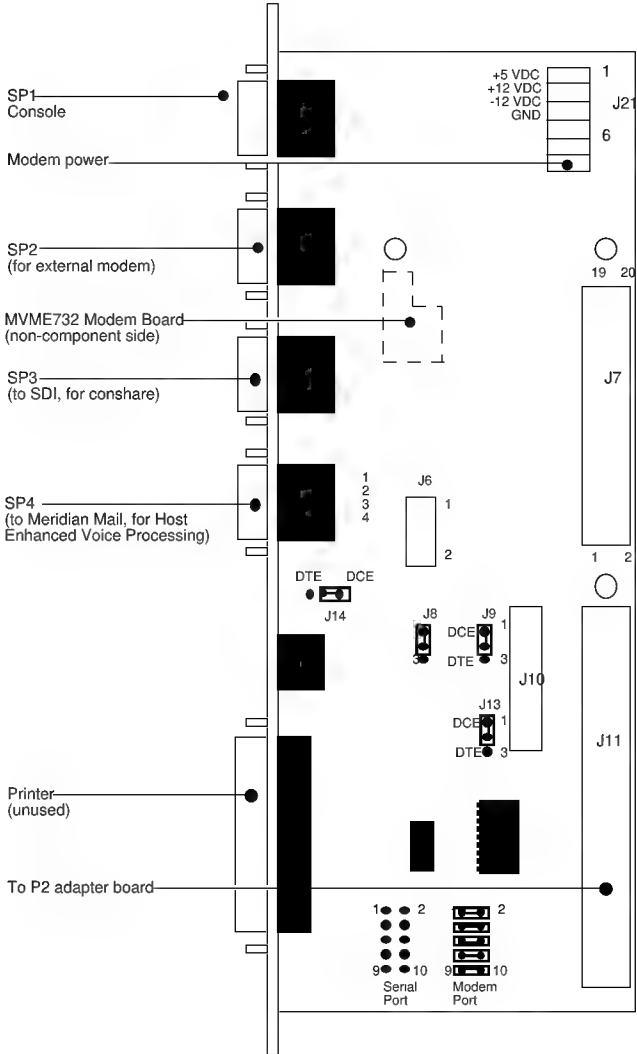
Procedure 17: Replace the Application Module MVME712 transition card

You must remove the Application Module from the AEM to access the transition cards.

- 1 Complete Procedure 13: Remove the Application Module.
- 2 Loosen the screws at the top and bottom of the card faceplate (at the rear of the Application Module).
- 3 Pull the card out of the Application Module.
- 4 Disconnect the cables to the card.
- 5 Check the jumpers and cable connections on the replacement card.
For DCE, check that the jumper is over the top two pins on all jumper locations; for DTE, check that the jumper is over the bottom two pins on all jumper locations. See Figures 36, 37, or 38.
- 6 Reconnect the cables to the replacement card.
- 7 Slide the replacement card into the back of the Application Module. Firmly press the middle of the faceplate to seat the card.
- 8 Install the screws on the faceplate of the replacement card.
- 9 Complete Procedure 14: Replace the Application Module to reinstall the module.

Procedure 17: Replace the Application Module MVME712 transition card
(continued)

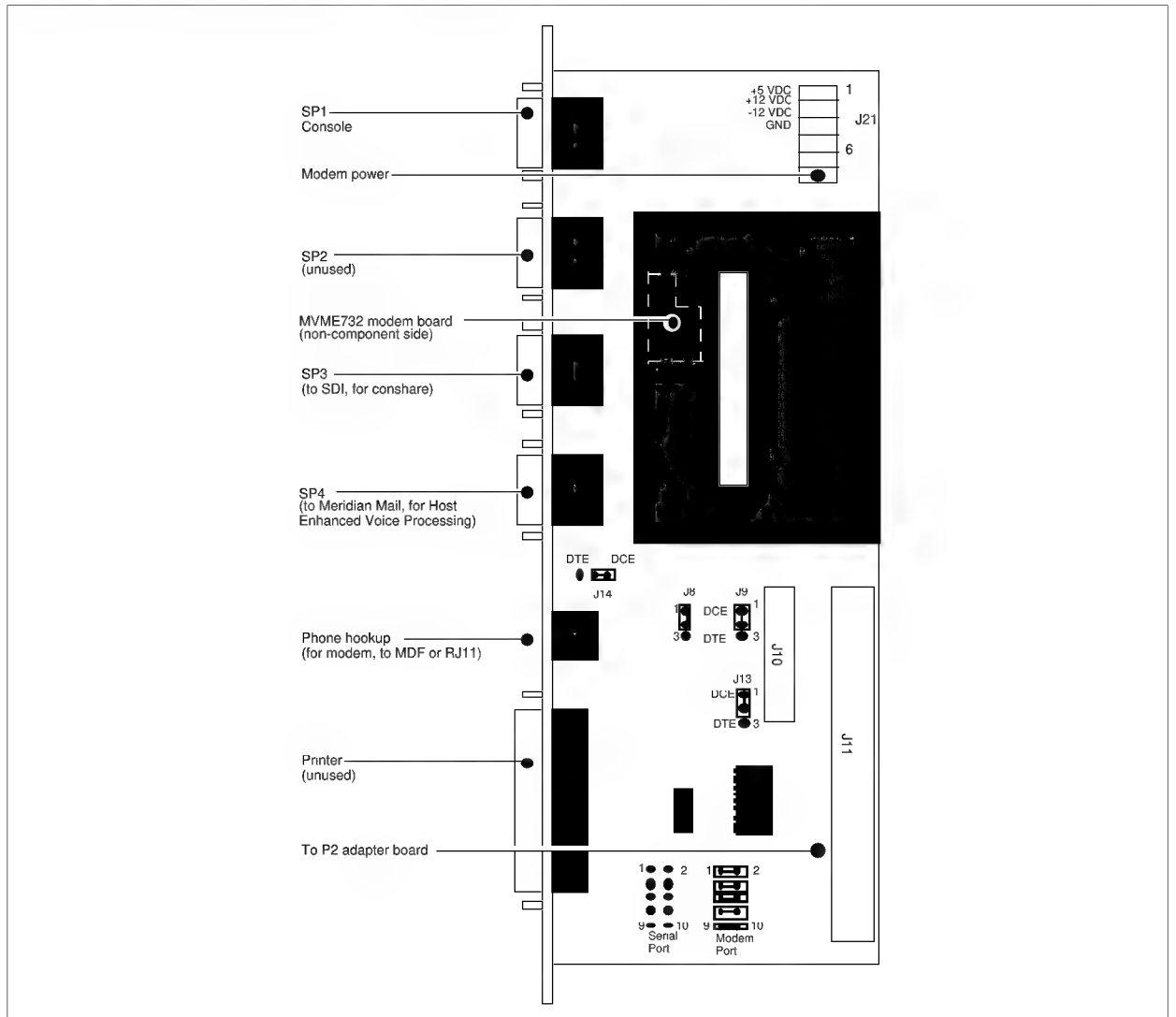
Figure 36



MVME712A transition card configuration

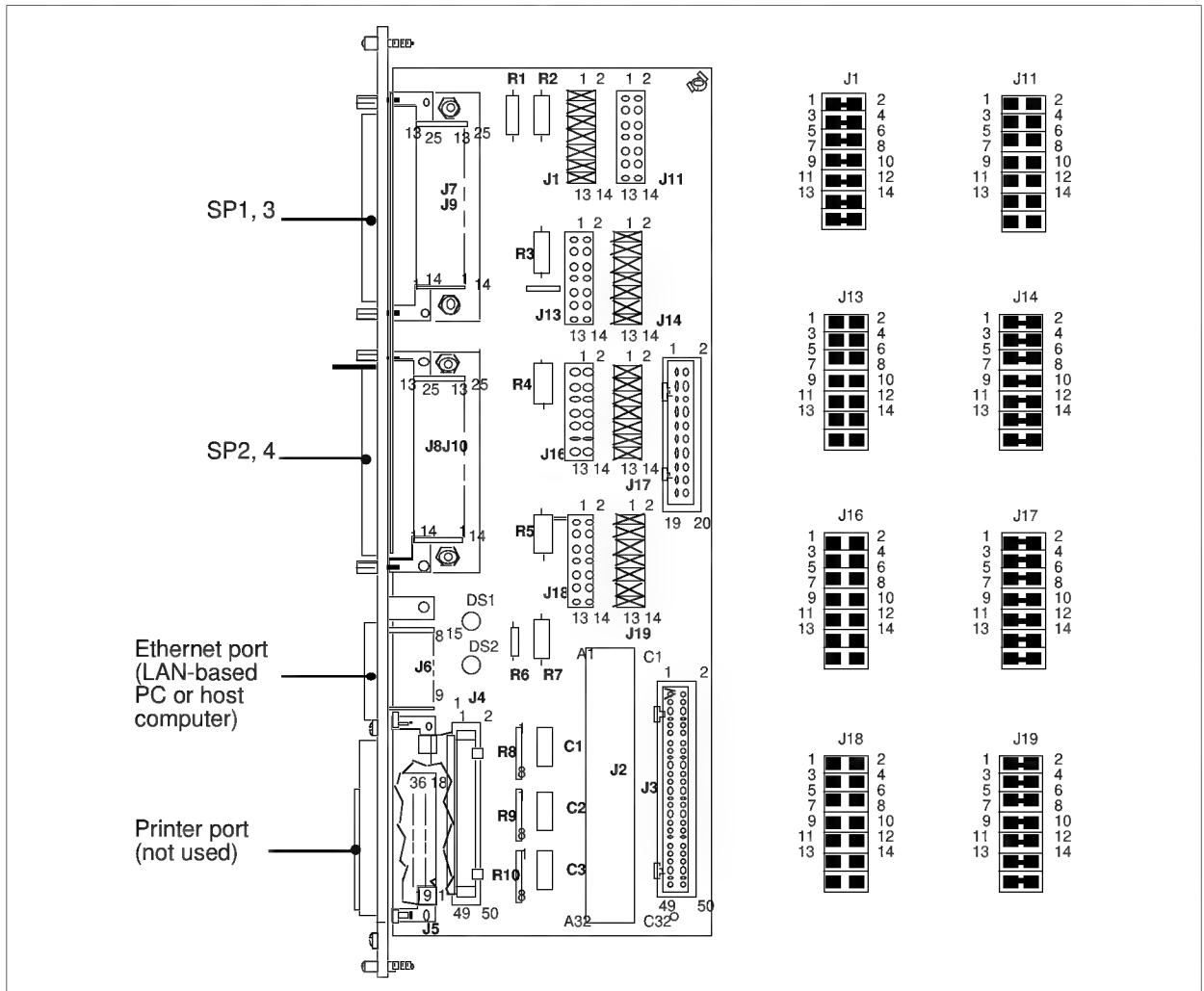
Procedure 17: Replace the Application Module MVME712 transition card (continued)

Figure 37
MVME712AM transition card configuration



Procedure 17: Replace the Application Module MVME712 transition card (continued)

Figure 38
MVME712M transition card configuration



Procedure 18: Replace or reconfigure the Application Module MVME705B transition card

You must remove the Application Module from the AEM to access the transition cards.

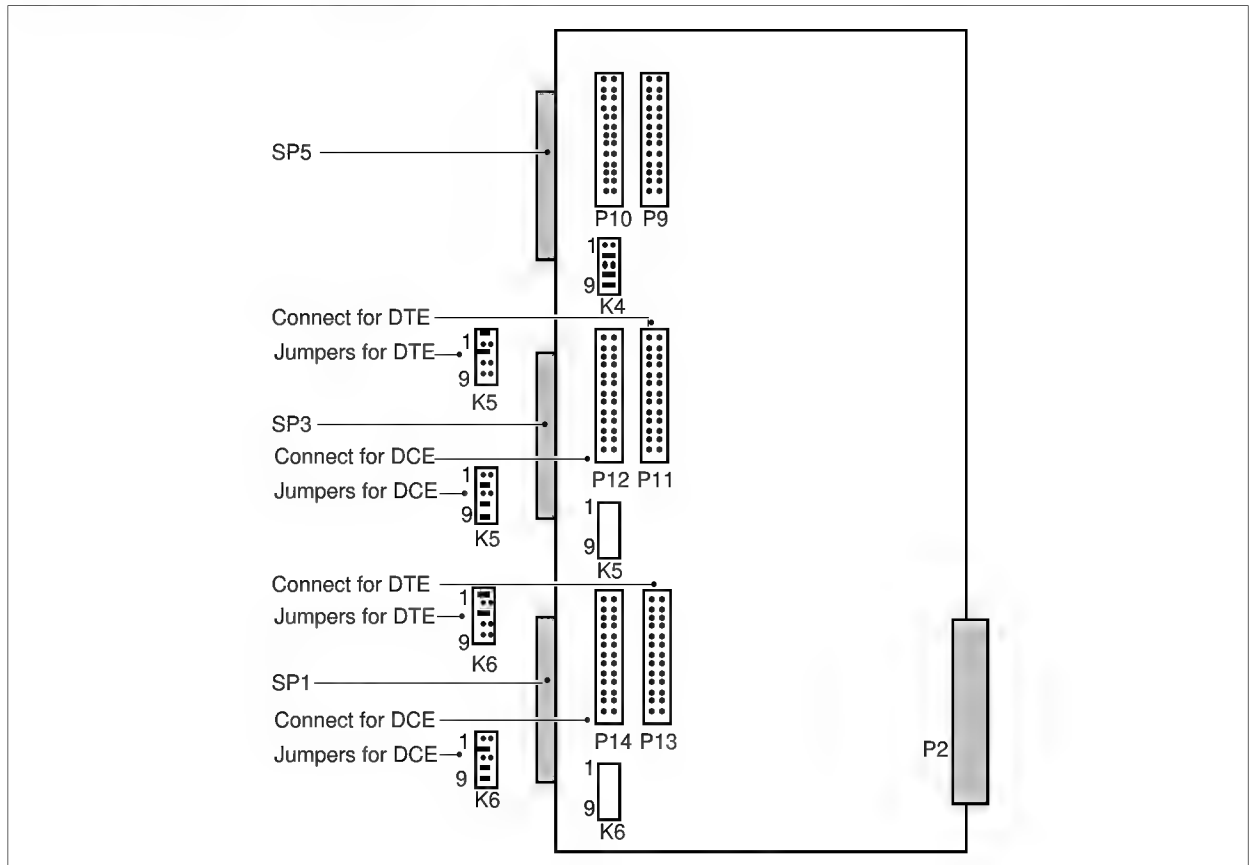
- 1 Complete Procedure 13: Remove the Application Module.
- 2 Loosen the screws at the top and bottom of the card faceplate (at the rear of the Application Module).
- 3 Pull the card out of the Application Module.
- 4 Disconnect the ribbon cable to the card.
- 5 Check the jumpers and cable connections on the replacement card or change the settings on the current card to reconfigure it. See Table 19 and Figure 39.
- 6 Connect the ribbon cable to the replacement or reconfigured card.
- 7 Slide the replacement or reconfigured card into the back of the Application Module. Firmly press the middle of the faceplate to seat the card.
- 8 Install the screws on the faceplate of the card.
- 9 Complete Procedure 14: Replace the Application Module, to reinstall the module.

Table 19
MVME705B jumper settings and cable connections

Serial port	DCE mode	DTE mode
SP1	On header K6, place jumpers over pins 3-4, 7-8, 9-10 Plug the I/O cable into P14	On header K6, place jumpers over pins 1-2, 5-6 Plug the I/O cable into P13
SP3	On header K5, place jumpers over pins 3-4, 7-8, 9-10 Plug the I/O cable into P12	On header K5, place jumpers over pins 1-2, 5-6 Plug the I/O cable into P11
SP5	Not used	Not used

Procedure 18: Replace or reconfigure the Application Module MVME705B transition card (continued)

Figure 39
MVME705B serial port configuration



Software reinstallation—initializing the system from tape

Some events may require you to load the operating system and application software from tape. If the disk drive fails or your system experiences a software problem, reload the software using the tapes delivered with the system. Keep these tapes with your database backups and use the most recent version for these procedures. You only need to perform the backup tape procedure once if you store the backup tape securely.

Allow up to 90 minutes for a complete reinstallation operation.

Overview of software reinstallation process

The following procedures explain how to perform a software reinstallation.

Procedure 19 Load the operating system tape on an Application Module with an MVME147 card

Procedure 20 Load the operating system tape on an IPE Module or an Application Module with an MVME167 card

Procedure 21 Reboot and go through setup

Procedure 22 Load the application software from tape

Procedure 23 Back up configuration files and data files

Procedure 24 Restore the configuration files and data files from the backup tape

If the configuration data for your application was not backed up properly, see the configuration procedures in the *Meridian Link/Customer Controlled Routing Installation and Upgrade Guide* (NTP 553-3202-210).

N The procedures in this section show the data that appears on
o your screen. Do not worry if the messages you see differ slightly from
a the ones shown here, but watch for error messages.
e
:

Procedure 19: Load the operating system tape on an Application Module with an MVME147 card

This procedure assumes that you have backed up all files and have powered down the Application Module.

ATTENTION

Do not press the [Backspace] or [Delete] key when the operating system is not installed, or you may drop out of the procedure into a previous menu or out of the installation procedure altogether. Use # (hold the [Shift] key and press 3) to backspace.

If you drop out of the procedure (into the “#” prompt), start the reinstallation procedure from the beginning.

If you are sure that your MVME147 card has been configured (for example, if you are upgrading software on a working system), skip steps 3–13 and go directly from step 2 to step 14.

- 1 Set the appropriate breaker on the MPDU to the ON position.

The following messages appear.

```
Copyright Motorola Inc. 1989,1990,1991, All Rights Reserved
VME147 Monitor/Debugger Release 2.42 - 8/1/91
CPU running at 25 MHz

FPC passed test
MMU passed test
COLD Start

Onboard RAM start = $00000000, stop = $007FFFFF
No offboard RAM detected
```

- 2 Type **h** immediately, before the next prompt appears. (You have about 5 seconds to do this.)
- 3 Write down the firmware release listed on the second message line. Figure 40, for example, shows Release 2.42. You will need this in step 12.

Procedure 19: Load the operating system tape on an Application Module with an MVME147 card (**continued**)

```
1) Continue System Start-up
2) Select Alternate Boot Device
3) Go To System Debugger
4) Initiate Service Call
5) Display System Test Errors
6) Dump Memory to Tape
Enter Menu #:
```

- 4 The menu in Figure 41 appears. Type **3** and press [Return] to enter the system debugger.
- 5 At the “147-Diag>” prompt, type **lot;t** and press [Return].

The system performs a scan of disk/tape controllers (Figure 42).

```
Scanning system for available disk/tape controllers.....
Disk Controllers Available
LUN  Type      Address  # dev
0    VME147    $FFFE4000  1  SCSI Addr = 0 - FUJITSU M2614S M606
1    VME147    $FFFE4000  1  SCSI Addr = 4 - TEAC MT-2ST/N50 RV F
      VME147    $FFFE4000  *  SCSI Addr = 7
Align LUNs to SCSI addresses [Y,N] N?
```

- 6 Write down the type of disk drive installed in SCSI address 0. This information is required later in the procedure. (In the example shown above, the drive is a Fujitsu M2614S.)

7 You are prompted to align LUNs. Type **y** and press [Return].

```
Disk  Controllers Available
LUN   Type      Address  # dev
0     VME147    $FFFE4000 1 SCSI Addr = 0 - FUJITSU M2614S M606
1     VME147    $FFFE4000 1 SCSI Addr = 1
2     VME147    $FFFE4000 1 SCSI Addr = 2
3     VME147    $FFFE4000 1 SCSI Addr = 3
4     VME147    $FFFE4000 1 SCSI Addr = 4 - TEAC MT-2ST/N50 RV F
5     VME147    $FFFE4000 1 SCSI Addr = 5
6     VME147    $FFFE4000 1 SCSI Addr = 6
      VME147    $FFFE4000 * SCSI Addr = 7

Save map in NVRAM [Y,N] N?
```

Procedure 19: Load the operating system tape on an Application Module with an MVME147 card (continued)

- 8 The LUN results appear (Figure 43). Type **y** and press [Return] to save the map in non-volatile memory.
- 9 The “147-Diag>” prompt reappears. Type **ab** and press [Return] to set autoboot enable. *Autoboot enable prompts appear. Answer them as indicated below.*

```
Controller LUN = 00? <cr>
Device LUN = 00? <cr>
Default String = ? <cr>
Boot at Power-up only or any board Reset [P,R] = R? <cr>
On any board Reset:
Auto Boot from Controller 0, Device 0
```

- 10 At the “147-Diag>” prompt, type **reset** and press [Return]. *The SCSI bus reset prompts appear. Answer them as indicated below.*

```
Reset Local SCSI Bus (Y, N) N? y <cr>
Automatic reset of known SCSI Buses on RESET (Y, N) = N? y <cr>
Cold/Warn Reset flag (C, W) = C? <cr>
Execute Soft Reset (Y, N) N? <cr>
```

- 11 When the “147-Diag>” prompt appears, type **env** and press [Return]. *The environment prompts appear.*
- 12 Answer them as indicated in Figures 46, 47, or 48, depending on the firmware installed in your system. The firmware release appeared in the start-up messages shown in Figure 40.

Procedure 19: Load the operating system tape on an Application Module with an MVME147 card (continued)

```
Bug or System environment [B,S] = S? <cr>
SYSTEM V/68 or VERSAdos operating system [S,V] = S? <cr>
Execute/Bypass SST Memory test [E,B] = E? b <cr>

Set VME Chip:
Board ID [0-FF] = $00? <cr>
GCSR base address [0-0F] = $0F? <cr>
Utility Interrupt Mask [0-FE] = $00? <cr>
Utility Interrupt Vector [$20-$30] = $0180? <cr>

Bug or System environment [B,S] = S? <cr>
Execute/Bypass System Memory Sizing [E,B] = B? <cr>
Execute/Bypass SST Memory test [E,B] = B? <cr>

Set VME Chip:
Board ID(def is 0) [0-FF] = $00? <cr>
GCSR base address offset(def is 0F) [0-0F] = $0F? <cr>
Utility Interrupt Mask(def is 0) [0-FE] = $00? <cr>
Utility Interrupt Vector number(def is 60) [8-F8] = $60? <cr>
VMEbus Interrupt Mask(def is FE) [0-FE] = $FE? <cr>
```

Procedure 19: Load the operating system tape on an Application Module with an MVME147 card (continued)

```
Bug or System environment [B,S] = S? <cr>
Execute/Bypass System Memory Sizing [E,B] = B? <cr>
Execute/Bypass SST Memory test [E,B] = B? <cr>
Set VME Chip:
Board ID(def is 0) [0-FF] = $00? <cr>
GCSR base address offset(def is 0F) [0-0F] = $0F? <cr>
Utility Interrupt Mask(def is 0) [0-FE] = $00? <cr>
Utility Interrupt Vector number(def is 60) [8-F8] = $60? <cr>
VMEbus Interrupt Mask(def is FE) [0-FE] = $FE? <cr>
```

Depending on the previous configuration, the system will reboot automatically or display the "147-Diag>" prompt.

- 1 3** If the system reboots automatically at this point, type **h** as soon as messages begin to appear on the console.

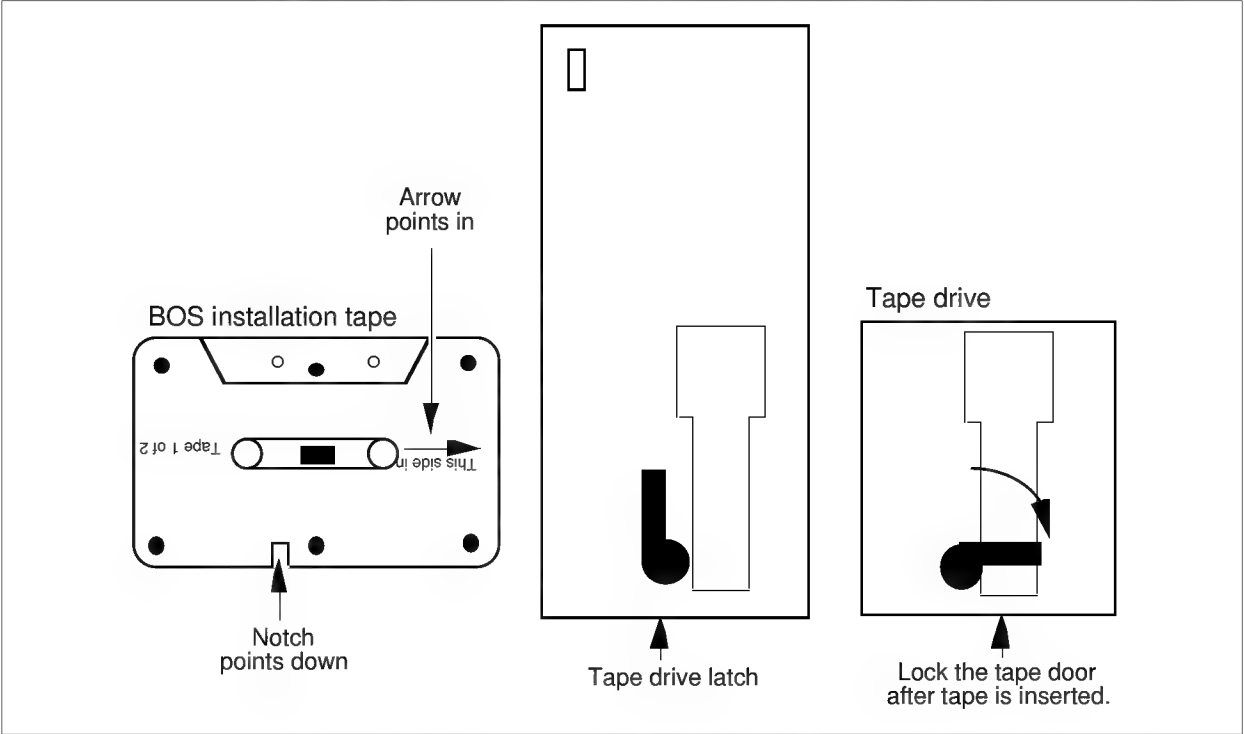
If the system displays the "147-Diag>" prompt, type **menu** then press [Return].

In either case, the start-up interrupt menu appears.

- 1 4** Insert the BOS tape System V/68 BOS R3V7.1 into the tape drive.

The tape indicator light comes on, flashes, and then goes off. Wait for the tape indicator light to turn off before proceeding to the next step.

Procedure 19: Load the operating system tape on an Application Module with an MVME147 card (continued)



Procedure 19: Load the operating system tape on an Application Module with an MVME147 card (continued)

```
1) Continue System Start-up
2) Select Alternate Boot Device
3) Go To System Debugger
4) Initiate Service Call
5) Display System Test Errors
6) Dump Memory to Tape
Enter Menu #:
```

- 15** When the tape indicator goes off, type **2** and press [Return].
- 16** You are prompted to enter the alternate boot device. Type **4**, and press [Return].
- 17** When the start-up interrupt menu reappears, type **1** and press [Return] to continue the system start-up.

The system starts up. A series of test messages will appear on one line across the screen for approximately 10 minutes. The system start-up messages begin to appear as shown in the Figure 51.

Procedure 19: Load the operating system tape on an Application Module with an MVME147 card (continued)

```

Testing Complete
Autoboot in progress ... To abort hit <BREAK>

RAM address from VMEbus = $00000000

Booting from: VME147, Controller 4, Device 0
Loading: Operating System

Volume: V/68

IPL loaded at: $001F0000
MVME147 IPL Version 1.0

*****

System V/68 Release R3V7 M68030 Version 920526

Real mem = 6291456
Avail mem = 4964352
Buffers = 60

*****

Copyright (c) 1984-1992 Motorola Inc. All rights reserved

INIT: SINGLE USER MODE
***
erase = # kill = @ intr = DEL quit = ^|
***
147 SCSI configuration
Device Addr Vers Revision Serial Blocks Size Vendor Description
-----
Disk 00 0001 M606... ..... 0352175 0512 FUJITSU M2614S
Tape 40 0001 RV F... ..... 0000000 0000 TEAC MT-2ST/N50
Enter the correct date and time EST [mmddhhmmyy]:

```

- 18 Type the date in the form MMDDHHMMYY (month, date, hour in 24-hour clock format, minute, year—note that the time should be in Eastern Standard Time), and press [Return].
Example: 0314163092

Procedure 19: Load the operating system tape on an Application Module with an MVME147 card (continued)

ATTENTION

During the installation or start-up of BOS, different characters than usual represent the character delete, line delete, and interrupt functions. During these operations,

- character delete (backspace), usually [Control-h], is [#]
- line delete, usually [Control-u], is [@]
- interrupt, usually [Control-c], is Delete

If you make a mistake entering the date, use [#] to delete characters. If you press [Delete], a “#” prompt appears; press [Control-d] to return to where you were.

- 19** You are prompted to confirm the date you entered. Type **y** and press [Return] if the date is correct.

If the date is not correct, type **n** and press [Return]. You are then prompted to enter each value.

*When you enter the date successfully and respond **y** to the prompt, the BOS software management menu appears.*

```
The BOS (FE03.71) Software Management Menu

1 install          Install FE03.71 BOS Software
2 upgrade          Upgrade To FE03.71 BOS Software

---> Enter a number, a name, the initial part of name, or
      ? or <number>? for HELP, q to QUIT:
```

Procedure 19: Load the operating system tape on an Application Module with an MVME147 card (continued)

20 Type **1** and press [Return] to install the software.

The BOS installation procedure begins.

BOS INSTALLATION PROCEDURE

Phase 1. Identify Root And Usr File Systems Installation Disk Drive(s)

The BOS product supports root and usr file system installations on the disk controllers listed below. The first column is the controller's selection number, the second column is the name of the controller, and, the third column is a brief description of the controller. Identify at the prompt the root file system's installation disk controller type.

1	MVME147	The MVME147 CPU Processor/SCSI Controller
2	MVME167	The MVME167 CPU Processor/SCSI Controller
3	MVME323	The MVME323 ESDI Disk Controller
4	MVME327	The MVME327 SCSI Bus Controller
5	MVME328	The MVME328 SCSI Host Adapter

---> Enter a number, a name, the initial part of a name, or
? or <number>? for HELP, or q to QUIT [MVME167]:

[MVME167]:

21 When prompted to select the SBC card, type **1** and press [Return].

The system response is: "Selected the 'MVME147' controller type."

---> Enter the root file system's disk drive number
(00, 10, 20, 30, ?, q) [00]:

Selected default disk drive number, '00'.

22 You are prompted to enter the root file system's disk drive number. Press [Return] to select the default disk drive number (00).

The disk drive selection list appears.

Procedure 19: Load the operating system tape on an Application Module with an MVME147 card (continued)

```
The MVME147 CPU Processor/SCSI Controller may be used to install
the BOS product on the following disk drive types.
The first column is the selection number, the second is the disk type
name (see the disk types associated with the ddefs(1M) utility), and
the third briefly describes the specific disk drive type:

1 m147cdcIV          Seagate/CDC WREN IV 300Mb Disk (94171/MVME875)
2 m147cdcIII         Seagate/CDC WREN III 150Mb Disk (94161/MVME874)
3 m147sea80          Seagate ST-296N 80Mb Disk (ST296N/M MVME873)
4 m147cdcV           Seagate/CDC WREN V 600Mb Disk (94181/MVME876)
5 m147cdcVII         Seagate/CDC WREN VII 1.2 GB Disk (94601/MVME877)
6 m147swift126       Seagate/CDC Swift 104 MB Disk (94351-126/MVME863)
7 m147swift201       Seagate/CDC Swift 172 MB Disk (94351-200S/MVME864)
8 m147fuji2613       Fujitsu Pico Bird 3E 135Mb Disk (2613ESA/MVME863)
9 m147fuji2614       Fujitsu Pico Bird 3E 180Mb Disk (2614ESA/MVME864)
10 m147fuji2624       Fujitsu Pico Bird 4 500Mb Disk (2624SA/MVME866)
11 m147fuji2622       Fujitsu Pico Bird 4 300Mb Disk (2622SA/MVME865)
12 m147fuji2652       Fujitsu Super Humming Bird 1.75 Gb Disk (2652SA/MVME878)
13 m147fuji2694       Fujitsu Pico Bird 5 1 Gb Disk (2694SA/MVME867)
14 m147micr1578       MICROPOLIS 300Mb Disk (1578)
15 m147micr1588       MICROPOLIS 600Mb Disk (1588)
16 m147micr1598       MICROPOLIS 1Gb Disk (1598)
17 m147sea3283        Seagate 240 Megabyte Disk (ST3283N)

---> Enter a number, a name, the initial part of a name, or
      ? or <number>? for HELP, or q to QUIT [m147cdcIV]:
```

You noted the disk type for your system in step 6. (See Figure 42 for an example.) Most of the disk drives shown in the above figure are not used by Nortel. Some common disk types used by Nortel and their corresponding selection numbers are listed in the table below.

Note: If your drive is not listed, but another drive of the same size is listed, use the option number for the listed drive. If you experience difficulties, contact your local Nortel support personnel.

Disk types used	Select this number
CDC ST1126N 9204 (104 Mbyte)	6
CDC ST1201N (172 Mbyte)	7
Fujitsu M2614S (180 Mbyte)	9
Seagate ST3283N (240 Mbyte)	17

Procedure 19: Load the operating system tape on an Application Module with an MVME147 card (continued)

- 23** Type the number corresponding to your disk drive, and press [Return].

The system response is: "Selected the XXXX disk type", where XXXX represents the disk type selected.

```
If the root file system's disk is new or needs to be formatted,
it can be formatted now. In order for you to take advantage of
dynamic disk slicing capabilities and the use of the
sleddit(1M) utility you may have to reformat the disk if it
was formatted with the R3V3 or earlier version of
the BOS disk formatter, dinit(1M).

WARNING - FORMATTING THE DISK WILL DESTROY ALL DATA ON THE DISK.

---> Format the root file system's disk drive (y, n, ?, q) [n]:
```

- 24** You are prompted to format the root file system's disk drive. Type **y** and press [Return] to indicate that you wish to format the drive.

```
The usr file system is often on the same disk drive as
the root file system, but not always. The following
questions determine where to install the usr file system.

---> Will the root and usr file systems be
    on the same disk drive? (y, n, ?, q) [y]:
```

- 25** You are prompted to indicate whether or not the root and user file systems will be on the same disk drive. Type **y** and press [Return] to indicate yes.

```
The default usr file system slice number for the MVME147
controller is slice number 2, but it may be changed.
Enter below, the slice number where the usr file system is to be install
ed.

---> Enter the slice number for the usr file system (0-6, ?, q) [2]:
```

Procedure 19: Load the operating system tape on an Application Module with an MVME147 card (continued)

- 26** You are prompted to enter the user file system slice number. Press [Return] to use the default slice number (2).

Phase 2 of the BOS installation begins, and the slice table appears. Figures 59, 60, 61, and 62 show disk slicing tables for four different drive types.

```
Phase 2.  Configure Root And Usr File-Systems And Swap Area

Check the following slicing information for the root file system's disk
drive; indicate below whether you wish to modify this information:

slice    offset    sl size    fs size    fsname    vol-id    info
0         648      40000      40000      root      R3         1
1        40648      20000       0          root      R3        1h8
2        60648     148484     148484     usr       R3         1
3         0         0          0          root      R3        1h8
4         0         0          0          root      R3        1h8
5         0         0          0          root      R3        1h8
6         0         0          0          root      R3        1h8
7         0      209132       0          root      R3        1h8

---> Modify any of these parameters? (y, n, ?, q):  [n]

Phase 2.  Configure Root And Usr File-Systems And Swap Area

Check the following slicing information for the root file system's disk
drive; indicate below whether you wish to modify this information:

slice    offset    sl size    fs size    fsname    vol-id    K
0         648      60000      60000      root      R3         1
1        60648      40000       0          root      R3         1
2       100648     180000     180000     usr R3      R3         1
3       280648      54827       0          root      R3         1
4         0         0          0          root      R3         1
5         0         0          0          root      R3         1
6         0         0          0          root      R3         1
7         0     335475       0          root      R3         1

---> Modify any of these parameters? (y, n, ?, q):  [n]
```

Procedure 19: Load the operating system tape on an Application Module with an MVME147 card (continued)

```
slice    offset    sl size    fs size    fsname    vol-id    info
0         648       60000     60000     root      R3         1
1         60648     40000      0                 R3         1h8
2         100648    180000     180000    usr       R3         1
3         280648    71528      0                 R3         1h8
4         0         0           0                 R3         1h8
5         0         0           0                 R3         1h8
6         0         0           0                 R3         1h8
7         0         352176     0                 R3         1h8

---> Modify any of these parameters? (y, n, ?, q): [n]

slice    offset    sl size    fs size    fsname    vol-id    info
0         648       60000     60000     root      R3         1
1         60648     40000      0                 R3         1h8
2         100648    378000     378000    usr       R3         1
3         478648    142        0                 R3         1h8
4         0         0           0                 R3         1h8
5         0         0           0                 R3         1h8
6         0         0           0                 R3         1h8
7         0         478800     0                 R3         1h8

---> Modify any of these parameters? (y, n, ?, q): [n]
```

- 27** You are prompted to modify the parameters. Type **n** and press [Return] to indicate that you don't wish to modify any parameters.

```
---> Install On-line Manual Pages Object Package (OLMP)? (y, n, ?, q) [n]:
```

- 28** You are prompted to indicate whether you wish to install online manual pages. Type **y** and press [Return] to indicate yes.

```
---> Install On-line Problem Descriptions (Tars on Tape)? (y, n, ?, q) [n]:
```

Procedure 19: Load the operating system tape on an Application Module with an MVME147 card (continued)

- 29** You are prompted to indicate whether you wish to install online problem descriptions. Nortel does not use these descriptions. Type **n** and press [Return] to indicate no.

```
----> Do you want to verify correct installation? (y, n, q) [y]:
```

- 30** You are prompted to verify correct installation. Press [Return] to indicate yes.

Confirmation of your selection appears, along with a summary of the installation information. The summary should look exactly like Figure 66, with the possible exception of the disk drive entry ('m147fuj2614').

```
Selected to run mkcomply to verify correct installation.

Check the information below.  If any part of the information is incorrect,
the previous questions will have to be answered again.

    * Format and install the new bootloader on the MVME147,
      controller #0, disk drive #00,
      using the ddefs(1M) description 'm147fuj2614'.

    * Create a root file system using 1 Kbyte logical blocks
      on slice 0 on the MVME147, controller #0, disk drive #00.

    * Create a swap area in slice 1 on the
      MVME147, controller #0, disk drive #00.

    * Create a usr file system using 1 Kbyte logical blocks
      on slice 2 on the MVME147, controller #0, disk drive #00.

    * Install On-line Manual Pages Object Package (OLMP).
    * Do Not Install On-line Problem Descriptions (Tars on Tape)
----> Is all of this information correct (y, n, q, ?):
```

- 31** If the summary information is correct, type **y** and press [Return]. If it is not correct, type **n**, press [Return], and then enter the information correctly when prompted.

*When the information is correct and you reply **y** to the above prompt, phases 3 and 4 of the installation begin.*

Procedure 19: Load the operating system tape on an Application Module with an MVME147 card (continued)

Note: Phases 3 and 4 may take from 30 to 90 minutes to complete.

```
**> Checking tape in drive

Phase 3.   Prepare Installation Disk Drive(s)

***> Retensioning tape (in background)
***> Formatting root file system's disk drive
***> Writing slice table to /dev/rdisk/ml47_00s7
***> Creating the root file system
***> Labeling the root file system
***> Creating the usr file system
***> Labeling the usr file system
***> Installing boot-loader on root file system's disk drive
***> Mounting root file system as /root
***> Making the /tmp directory
***> Making the /usr directory
***> Mounting usr file system as /root/usr

Phase 4.   Install BOS Software

***> Waiting for tape to complete retensioning
***> Copying files; this will take from 10-35 minutes
      depending upon your system configuration...
70240 blocks
1200 blocks
10960 blocks
40 blocks
***> Making the root file system lost+found directory

Reserving 160 entries
***> Making the usr file system lost+found directory

Reserving 480 entries
***> Installing /etc/badtracks/ml47_00 bad spot list
***> Creating sysadm(1M) package information file
***> Setting up the new operating system
***> Creating root and usr file system associated device nodes
***> Setting permissions on installation disk's root directory
***> Running mkcomply to confirm correct installation
***> Setting root's password entry
New password:
```

32 At the "New Password:" prompt, press [Return].

33 The system responds with "Re-enter new password:". Press [Return] again.

Procedure 19: Load the operating system tape on an Application Module with an MVME147 card (continued)

```
Re-enter new password:
***> Unmounting all mounted file systems
***> Synchronizing the installation disk

      BOS product installation is completed.

You must RESET the system and allow it to autoboot from the hard disk
.

      *****
      **** RESET THE SYSTEM ****
      *****
```

- 34** Remove the BOS tape from the drive.

Note: Procedure 20 is for the IPE Module or MVME167 card.

- 35** Proceed with Procedure 21 and go through the setup.

Procedure 20: Load the operating system tape on an IPE Module or an Application Module with an MVME167 card

If you have just installed a new MVME167 card in an Application Module and you are installing the software for the first time, you need to do steps 2–6. Otherwise, skip these five steps.

N If you intend to activate CCR and use terminals or printers, ensure that the MVME332XT or MVME332XTS card is installed before you start this procedure.
e
:

This procedure assumes that you have backed up all files and have powered down the IPE Module or the Application Module.

- 1 Turn on the power. If the “167-Diag>” or the “167-Bug>” prompt appears, go to step 5. If the “4120-Diag>” or “4120-Bug” prompt appears, go to step 4. If the following messages appear on the console, go to step 2.

```
Copyright Motorola Inc. 1988 - 1992, All Rights Reserved  
  
VME167 Debugger/Diagnostics Release Version 1.4 - 07/22/92  
COLD Start  
  
Local Memory Found = 00800000 (s8388608)  
MPU Clock Speed = 25Mhz
```

- 2 Type **h** as soon as messages start to appear. If you are too late, press the Break key instead.
The start-up interrupt menu appears.
- 3 If you are using an IPE Module, go to step 4.
If you are using a new MVME167 card, go to step 5.
If you are using a previously configured MVME167 card, go to step 6.

Procedure 20: Load the operating system tape on an IPE Module or an Application Module with an MVME167 card (continued)

- 4 At the “4120-Diag>” or “4120-Bug>” prompt, type **env** and press [Return].
The environment prompts appear. Answer them as indicated in the figure below. Then go to step 6.

*If you make a mistake, quit the process by entering a period (.) at a prompt and answering “n” for the last two questions (Update Non-Volatile RAM/Reset Local System). This brings you back to the “167-Diag>” or “4120-Diag>” prompt. Then type **env;d** and press [Return] to undo the mistakes you made and bring back the original default values.*

Note: At the “Auto Boot Controller LUN=00?” prompt, type a period (.) and press [Return] to bypass additional prompts that do not need to be changed.

```
Bug or System environment [B/S] = B?      <cr>
Field Service Menu Enable [Y/N] = N?      <cr>
Probe System for Supported Disk/Tape Controllers [Y/N] = Y?  <cr>
Local SCSI Bus Reset on Debugger Start-up [Y/N] = Y?        <cr>
Ignore CFGA Block on a Hard Disk Boot [Y/N] = Y?            <cr>
Auto Boot Enable [Y/N] = Y?      <cr>
Auto Boot at power-up only [Y/N] = N?      <cr>
Auto Boot Controller LUN = 00? . <cr>      (Type a period (.) and press
                                           [Return].)
```

Note: If you changed or reentered any values in Figure 70, you will see two additional prompts, to which you should respond as shown in the following figure.

Procedure 20: Load the operating system tape on an IPE Module or an Application Module with an MVME167 card (continued)

```
Update Non-Volatile RAM (Y/N)?  y <cr>
Reset Local System (CPU) (Y/N)?  y <cr>
```

- 5 At the “167-Diag>” prompt, type **env** and press [Return].
The environment prompts appear. Answer them as indicated in the figure below. Then go to step 6.

*If you make a mistake, quit the process by entering a period (.) at a prompt and answering “n” for the last two questions (Update Non-Volatile RAM/Reset Local System). This brings you back to the “167-Diag>” prompt. Then type **env;d** and press [Return] to undo the mistakes you made and bring back the original default values.*

Note: At the “Auto Boot Controller LUN=00?” prompt, type a period (.) and press [Return] to bypass additional prompts that do not need to be changed.

Procedure 20: Load the operating system tape on an IPE Module or an Application Module with an MVME167 card (continued)

```
Bug or System environment [B/S] = S?  <cr>
Field Service Menu Enable [Y/N] = Y?  <cr>
Remote Start Method Switch [G/M/B/N] = B?  <cr>
Probe System for Supported I/O Controllers [Y/N] = Y?  <cr>
Negate VMEbus SYSFAIL* Always [Y/N] = N?  <cr>
Local SCSI Bus Reset on Debugger Start-up [Y/N] = Y?  <cr>
Local SCSI Bus Negotiations Type [A/S/N] = A?  <cr>
```

Note: The prompt “Local SCSI Bus Negotiations Type” may not appear for all MVME167 cards.

```
Ignore CFGA Block on a Hard Disk Boot [Y/N] = Y?  <cr>
Auto Boot Enable [Y/N] = Y?  <cr>
Auto Boot at power-up only [Y/N] = N?  <cr>
Auto Boot Controller LUN = 00? . <cr> (Type a period (.) and press
                                         [Return].)
```

Note: If you changed or reentered any values in Figure 72, you will see two additional prompts, to which you should respond as shown in the following figure.

```
Update Non-Volatile RAM (Y/N)?  y <cr>
Reset Local System (CPU) (Y/N)?  y <cr>
```

- 6 The system reboots automatically. Messages start to appear on the console. Type **h** as soon as messages start appearing on the console.

The start-up interrupt menu appears.

Procedure 20: Load the operating system tape on an IPE Module or an Application Module with an MVME167 card (continued)

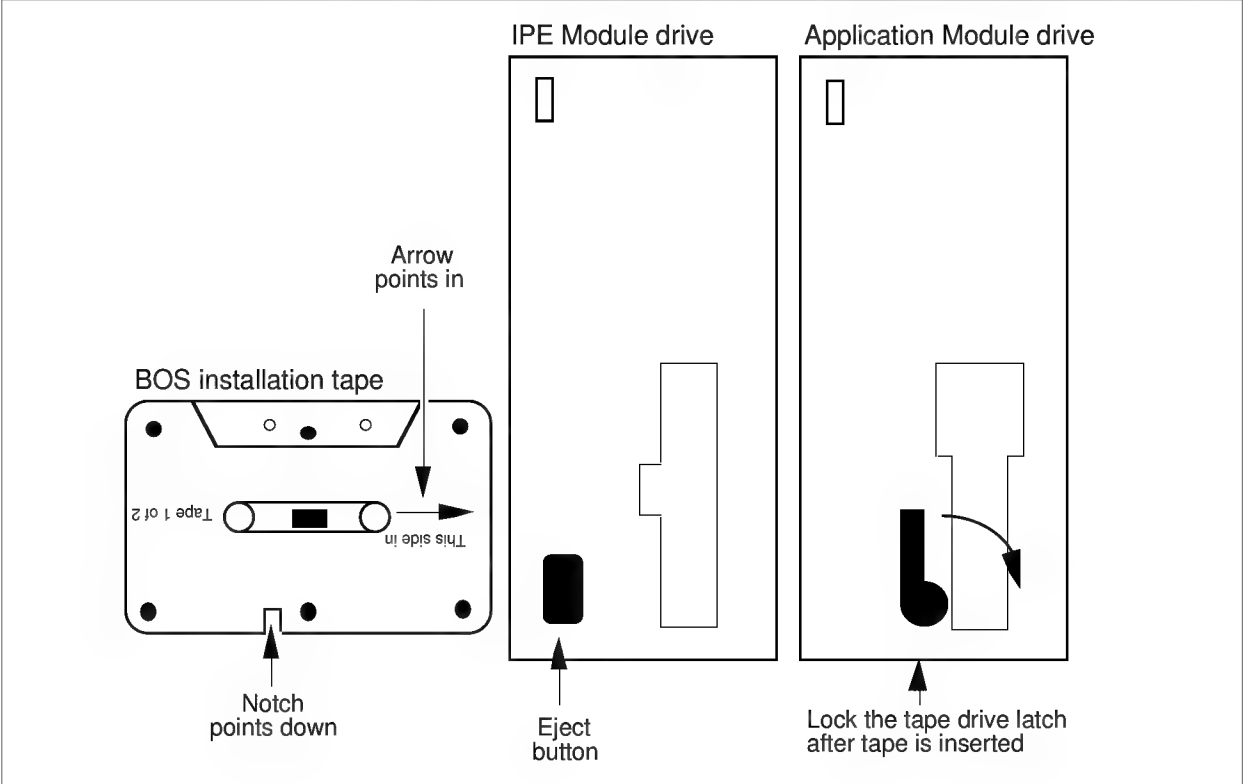
Note: If the “167-Diag>” or “4120-Diag>” prompt appears, type **menu** and press [Return].

```
1) Continue System Start-up
2) Select Alternate Boot Device
3) Go To System Debugger
4) Initiate Service Call
5) Display System Test Errors
6) Dump Memory to Tape
Enter Menu #:
```

- 7 Insert the operating system tape (System V/68 BOS R3V7.1) into the tape drive.

The tape indicator light comes on, flashes, and then goes off. Wait for the tape indicator light to turn off before proceeding to the next step.

Procedure 20: Load the operating system tape on an IPE Module or an Application Module with an MVME167 card (continued)



Procedure 20: Load the operating system tape on an IPE Module or an Application Module with an MVME167 card (continued)

8 Type **2** and press [Return].

```
Alternate Boot Device (Controller,Drive,File): 0,0,  
Change it (Y/N)?
```

9 You are prompted to change the alternate boot device. Type **y** and press [Return].

```
Controller:
```

10 You are prompted to enter the controller number. Type **0** and press [Return].

```
Drive      :
```

11 You are prompted to enter the drive number. Type **40** and press [Return].

```
File       :
```

Procedure 20: Load the operating system tape on an IPE Module or an Application Module with an MVME167 card (continued)

- 12** You are prompted to enter the file name. Press [Return].

```
Continue System Start Up (Y/N)?
```

- 13** You are prompted to continue start-up. Type **y** and press [Return].

A series of test messages will appear on one line across the screen for approximately 10 minutes. The system start-up messages begin to appear as shown in the following figure.

```
Testing Complete
Autoboot in progress ... To abort hit <BREAK>

Booting from: VME167, Controller 0, Drive 40
Loading:      Operating System

Volume:      V/68

IPL loaded at: $001F0000
MVMETAPE IPL Version 1.0

*****

                System V/68 Release R3V7 M68040 Version 920526

                Real mem  = 6291456
                Avail mem = 4956160
                Buffers   = 60

*****

Copyright (c) 1984-1992 Motorola Inc. All rights reserved

INIT:  SINGLE USER MODE
***
erase = #   kill = @   intr = DEL   quit = ^|
***
167 SCSI configuration
Device      Addr Vers Revision   Serial#   Blocks   Size Vendor Description
-----
Disk         00 0002  9324...   .....   0478845   0512  SEAGATE ST3283N
Tape         40 0001  RV F...   .....   0000000   0000  TEAC    MT-2ST/N50
Enter the correct date and time EST [mmddhhmmyy]:
```

Procedure 20: Load the operating system tape on an IPE Module or an Application Module with an MVME167 card (continued)

- 14 Write down the vendor and description of the disk drive installed in SCSI address 00. This information is required later in the procedure. (In the preceeding example, the drive is a SEAGATE ST3283N.)
- 15 Type the date in the form **MMDDHHMMYY** (month, date, hour in 24-hour clock format, minute, year—note that the time should be Eastern Standard Time), and press [Return].
Example: 0314163092

ATTENTION

During the installation or start-up of BOS, different characters than usual represent the character delete, line delete, and interrupt functions. During these operations,

- character delete (backspace), usually [Control-h], is [#]
- line delete, usually [Control-u], is [@]
- interrupt, usually [Control-c], is Delete

If you make a mistake entering the date, use [#] to delete characters. If you press [Delete], a “#” prompt appears; press [Control-d] to return to where you were.

- 16 You are prompted to confirm the date you entered. Type **y** and press [Return].
If the date is not correct, type **n** and press [Return]. You are then prompted to enter the date, as in step 15.
When you enter the date successfully and respond y to the prompt, the BOS software management menu appears (Figure 82).

Procedure 20: Load the operating system tape on an IPE Module or an Application Module with an MVME167 card (continued)

```
The BOS (FE03.71) Software Management Menu
1 install          Install FE03.71 BOS Software
2 upgrade          Upgrade To FE03.71 BOS Software

---> Enter a number, a name, the initial part of name, or
      ? or <number>? for HELP, q to QUIT:
```

- 17** At the software management menu, type **1** and press [Return] to install the software.
The BOS installation procedure begins.

```
Phase 1. Identify Root And Usr File Systems Installation Disk Drive(s)

The BOS product supports root and usr file system installations
on the disk controllers listed below. The first column is the controller's
selection number, the second column is the name of the controller, and,
the third column is a brief description of the controller. Identify
at the prompt the root file system's installation disk controller type.

1 MVME147 The MVME147 CPU Processor/SCSI Controller
2 MVME167 The MVME167 CPU Processor/SCSI Controller
3 MVME323 The MVME323 ESDI Disk Controller
4 MVME327 The MVME327 SCSI Bus Controller
5 MVME328 The MVME328 SCSI Host Adapter

---> Enter a number, a name, the initial part of a name, or
      ? or <number>? for HELP, or q to QUIT [MVME167]:
```

- 18** The system prompts you to select the disk controller. Whether you have an IPE Module or an Application Module, type **2** and press [Return] to select the MVME167 SBC card (this option supports both the IPE Module and the Application Module with an MVME167 card).

The system response is: "Selected the 'MVME167' controller type".

Procedure 20: Load the operating system tape on an IPE Module or an Application Module with an MVME167 card (continued)

```
Selected MVME167 controller number 0.  
This is the only controller number for the MVME167 controller  
supported by the BOS product.
```

```
---> Enter the root file system's disk drive number  
      (00, 10, 20, 30, 40, 50, 60, ?, q) [00]:
```

- 19** You are prompted to enter the root file system's disk drive number. Press [Return] to enter the default disk drive number (00).

The disk drive selection list appears.

```
Selected default disk drive number '00'.  
The MVME167 CPU Processor/SCSI Controller may be used to install  
the BOS product on the following disk drive types.  
The first column is the selection number, the second is the disk type  
name (see the disk types associated with the ddefs(1M) utility), and  
the third briefly describes the specific disk drive type:
```

1	mcdcIV	Seagate/CDC WREN IV 300Mb Disk (94171/MVME875)
2	mcdcV	Seagate/CDC WREN V 600Mb Disk (94181/MVME876)
3	mcdcVII	Seagate/CDC WREN VII 1.2 GB Disk (94601/MVME877)
4	mcdcIII	Seagate/CDC WREN III 150Mb Disk (94161/MVME874)
5	mfuji2613	Fujitsu Pico Bird 3E 135Mb Disk (2613ESA/MVME863)
6	mfuji2614	Fujitsu Pico Bird 3E 180Mb Disk (2614ESA/MVME864)
7	mfuji2624	Fujitsu Pico Bird 4 500Mb Disk (2624SA/MVME866)
8	ml47swift126	Seagate/CDC Swift 104 MB Disk (94351-126/MVME863)
9	ml47swift201	Seagate/CDC Swift 172 MB Disk (94351-200S/MVME864)
10	mfuji2652	Fujitsu Super Humming Bird 1.75 Gb Disk (2652SA/MVME878)
11	mfuji2694	Fujitsu Pico Bird 5 1 Gb Disk (2694SA/MVME867)
12	mfuji2622	Fujitsu Pico Bird 4 300Mb Disk (2622SA/MVME865)
13	mmicrl578	MICROPOLIS 300Mb Disk (1578)
14	mmicrl588	MICROPOLIS 600Mb Disk (1588)
15	mmicrl598	MICROPOLIS 1Gb Disk (1598)
16	ml47sea3283	Seagate 240 Megabyte Disk (ST3283N)
17	ml47sea3283	Seagate 240 Megabyte Disk (ST3283N)

```
---> Enter a number, a name, the initial part of a name, or  
      ? or <number>? for HELP, or q to QUIT [mcdcIV]:
```

```
1:
```

You noted the disk type for your system in step 14. (See Figure 81 for an example.) Most of the disk drives in the above figure are not used by Nortel. Some common disk types used by Nortel and their corresponding selection numbers are listed in the table below.

Procedure 20: Load the operating system tape on an IPE Module or an Application Module with an MVME167 card (continued)

Note: If your drive is not listed, but another drive of the same size is listed, use the option number for the listed drive. Although options 8, 9, 16, and 17 start with the prefix “m147,” these options are also applicable to IPE Modules and Application Modules with MVME167 cards. If you experience difficulties, contact your local Nortel support personnel.

Disk types used	Select this number
CDC ST1126N 9204 (104 Mbyte)	8
CDC ST1201N (172 Mbyte)	9
Fujitsu M2614S (180 Mbyte)	6
Seagate ST3283N (240 Mbyte)	16

- 20** For this example, the m147sea3283 disk drive is being used. Type **16** and press [Return].

The system response is: “Selected the XXXX disk type”, where XXXX represents the disk type selected.

```
Selected the 'm147sea3283' disk type.

If the root file system's disk is new or needs to be formatted,
it can be formatted now. In order for you to take advantage of
dynamic disk slicing capabilities and the use of the
sleddit(1M) utility you may have to reformat the disk if it
was formatted with the R3V3 or earlier version of
the BOS disk formatter, dinit(1M).

WARNING - FORMATTING THE DISK WILL DESTROY ALL DATA ON THE DISK.

---> Format the root file system's disk drive (y, n, ?, q) [n]:
```

- 21** You are prompted to format the root file system's disk drive. Type **y** and press [Return] to indicate that you wish to format the drive.

Procedure 20: Load the operating system tape on an IPE Module or an Application Module with an MVME167 card (continued)

The usr file system is often on the same disk drive as the root file system, but not always. The following questions determine where to install the usr file system.

---> Will the root and usr file systems be
on the same disk drive? (y, n, ?, q) [y]:

- 22** You are prompted to indicate whether or not the root and user file systems will be on the same disk drive. Type **y** and press [Return] to indicate yes.\

The default usr file system slice number for the MVME167 controller is slice number 2, but it may be changed. Enter below, the slice number where the usr file system is to be installed.

---> Enter the slice number for the usr file system (0-6, ?, q) [2]:

- 23** You are prompted to enter the user file system slice number. Press [Return] to use the default slice number (2).

Phase 2 of the BOS installation begins, and the slice table appears. Figures 89-92 show the slice tables for four different disk drives.

Procedure 20: Load the operating system tape on an IPE Module or an Application Module with an MVME167 card (continued)

Phase 2. Configure Root And Usr File-Systems And Swap Area

Check the following slicing information for the root file system's disk drive; indicate below whether you wish to modify this information:

slice	offset	sl size	fs size	fsname	vol-id	info
0	648	40000	40000	root	R3	1
1	40648	20000	0			1h8
2	60648	148484	148484	usr	R3	1
3	0	0	0			1h8
4	0	0	0			1h8
5	0	0	0			1h8
6	0	0	0			1h8
7	0	209132	0			1h8

---> Modify any of these parameters? (y, n, ?, q): [n]

Phase 2. Configure Root And Usr File-Systems And Swap Area

Check the following slicing information for the root file system's disk drive; indicate below whether you wish to modify this information:

slice	offset	sl size	fs size	fsname	vol-id	K
0	648	60000	60000	root	R3	1
1	60648	40000	0			1
2	100648	180000	180000	usr R3		1
3	280648	54827	0			1
4	0	0	0			1
5	0	0	0			1
6	0	0	0			1
7	0	335475	0			1

---> Modify any of these parameters? (y, n, ?, q): [n]

Procedure 20: Load the operating system tape on an IPE Module or an Application Module with an MVME167 card (continued)

Phase 2. Configure Root And Usr File-Systems And Swap Area

Check the following slicing information for the root file system's disk drive; indicate below whether you wish to modify this information:

slice	offset	sl size	fs size	fsname	vol-id	info
0	648	60000	60000	root	R3	1
1	60648	40000	0			1h8
2	100648	180000	180000	usr	R3	1
3	280648	71528	0			1h8
4	0	0	0			1h8
5	0	0	0			1h8
6	0	0	0			1h8
7	0	352176	0			1h8

---> Modify any of these parameters? (y, n, ?, q): [n]

Phase 2. Configure Root And Usr File-Systems And Swap Area

Check the following slicing information for the root file system's disk drive; indicate below whether you wish to modify this information:

slice	offset	sl size	fs size	fsname	vol-id	info
0	648	60000	60000	root	R3	1
1	60648	40000	0			1h8
2	100648	378000	378000	usr	R3	1
3	478648	142	0			1h8
4	0	0	0			1h8
5	0	0	0			1h8
6	0	0	0			1h8
7	0	478800	0			1h8

---> Modify any of these parameters? (y, n, ?, q): [n]

24 You are prompted to modify the parameters. Press [Return] to indicate that you don't wish to change any parameters.

---> Install On-line Manual Pages Object Package (OLMP)? (y, n, ?, q) [n]:

Procedure 20: Load the operating system tape on an IPE Module or an Application Module with an MVME167 card (continued)

- 25** You are prompted to indicate whether you wish to install online manual pages. Type **y** and press [Return] to indicate yes.

```
---> Install On-line Problem Descriptions (Tars on Tape)? (y, n, ?, q) [n]:
```

- 26** You are prompted to indicate whether you wish to install online problem descriptions. Nortel does not use these descriptions. Type **n** and press [Return] to indicate no.

```
---> Do you want to verify correct installation? (y, n, q) [y]
```

- 27** You are prompted to indicate whether you wish to verify correct installation. Type **y** and press [Return] to indicate yes.

Confirmation of your selection appears, along with a summary of the installation information. The summary should look exactly like the one in Figure 96, with the possible exception of the disk drive entry ('m147sea3283').

Procedure 20: Load the operating system tape on an IPE Module or an Application Module with an MVME167 card (continued)

```
Selected to run mkcomply to verify correct installation.

Check the information below.  If any part of the information is incorrect,
the previous questions will have to be answered again.

* Format and install the new bootloader on the MVME167,
  controller #0, disk drive #00,
  using the ddefs(1M) description 'm147sea3283'.

* Create a root file system using 1 Kbyte logical blocks
  on slice 0 on the MVME167, controller #0, disk drive #00.

* Create a swap area in slice 1 on the
  MVME167, controller #0, disk drive #00.

* Create a usr file system using 1 Kbyte logical blocks
  on slice 2 on the MVME167, controller #0, disk drive #00.

* Install On-line Manual Pages Object Package (OLMP).
* Do Not Install On-line Problem Descriptions (Tars on Tape)
---> Is all of this information correct (y, n, q, ?):  y
```

- 28** If the summary information is correct, type **y** and press [Return]. If it is not correct, type **n**, press [Return], and then enter the information correctly when prompted.

*When the information is correct and you reply **y** to the above prompt, phases 3 and 4 of the installation begin.*

Note: Phases 3 and 4 may take from 30 to 90 minutes to complete.

Procedure 20: Load the operating system tape on an IPE Module or an Application Module with an MVME167 card (continued)

```
***> Checking tape in drive

Phase 3.   Prepare Installation Disk Drive(s)

***> Retensioning tape (in background)
***> Formatting root file system's disk drive
***> Writing slice table to /dev/rdisk/ml67_00s7
***> Creating the root file system
***> Labeling the root file system
***> Creating the usr file system
***> Labeling the usr file system
***> Installing boot-loader on root file system's disk drive
***> Mounting root file system as /root
***> Making the /tmp directory
***> Making the /usr directory
***> Mounting usr file system as /root/usr

Phase 4.   Install BOS Software

***> Waiting for tape to complete retensioning
***> Copying files; this will take from 10-35 minutes
        depending upon your system configuration...
70240 blocks
1200 blocks
10960 blocks
***> Making the root file system lost+found directory

Reserving 160 entries
***> Making the usr file system lost+found directory

Reserving 960 entries
***> Installing /etc/badtracks/ml67_00 bad spot list
***> Creating sysadm(1M) package information file
***> Setting up the new operating system
***> Creating root and usr file system associated device nodes
***> Setting permissions on installation disk's root directory
***> Running mkcomply to confirm correct installation
***> Setting root's password entry
New password:
```

29 At the “New password:” prompt, press [Return].

30 The system responds with “Re-enter new password:” Press [Return] again.

Procedure 20: Load the operating system tape on an IPE Module or an Application Module with an MVME167 card (continued)

```
***> Unmounting all mounted file systems
***> Synchronizing the installation disk

      BOS product installation is completed.

You must RESET the system and allow it to autoboot from the hard disk

      *****
      **** RESET THE SYSTEM ****
      *****
```

- 3 1** Remove the operating system tape from the drive.
- 3 2** Proceed with Procedure 21 and go through the setup.

Procedure 21: Reboot and go through setup

If you have just installed the operating system tape, ensure that you perform the following procedure before you load the application tape.

Note: If your configuration requires an MVME332 card, ensure that it is installed prior to starting this procedure.

- 1 Press the red RESET button on the MVME147 or MVME167 SBC card or the IPE Module.

System start-up messages appear on the system console (see Figures 99 and 100).

```
Copyright Motorola Inc. 1989,1990, All Rights Reserved
VME147 Monitor/Debugger Release 2.42 - 08/01/91
CPU running at 25 MHz

FPC  passed test
MMU  passed test

COLD Start

Onboard  RAM start = $00000000,  stop = $007FFFFF
No offboard RAM detected

Copyright Motorola Inc. 1988 - 1992, All Rights Reserved
MVME167 Debugger/Diagnostics Release Version 1.4 - 07/22/92
COLD Start

Local Memory Found =00800000 (#8388608)

MPU Clock Speed =25Mhz
```

Procedure 21: Reboot and go through setup (continued)

The autoboot process then starts. Autoboot messages for the IPE Module or MVME167 card are shown in Figures 101 and 102. Messages for the MVME147 card are similar.

A series of test messages will appear on one line across the screen for approximately 10 minutes. The system start-up messages begin as shown in the following figure.

```
Testing Complete
Autoboot in progress ... To abort hit <BREAK>

Booting from:  VME167, Controller 0, Drive 40
Loading:  Operating System

Volume:  V/68

IPL loaded at:  $001F0000
MVME167 IPL Version 1.0

*****

                System V/68 Release R3V7 M68040 Version 920526

                        Real mem  = 6291456
                        Avail mem = 4956160
                        Buffers   = 60

*****
Copyright (c) 1984-1992 Motorola Inc. All rights reserved

INIT:  SINGLE USER MODE
***
erase = #  kill = @  intr = DEL  quit = ^|
***
167 SCSI configuration
Device      Addr Vers Revision  Serial#  Blocks  Size Vendor Description
-----
Disk        00 0002  9324...  ....  0478845  0512  SEAGATE ST3283N
Tape        40 0001  RV F...  ....  0000000  0000  TEAC    MT-2ST/N50
Enter <cr> to pause in a single user shell before init.

Default boot sequence continuing...
The system is coming up. Please wait.
```

Procedure 21: Reboot and go through setup (continued)

- 6 Type **y** and press [Return].

The port configuration messages (shown in Figure 104) appear on your screen.

Note: Figure 104 shows an entry about adding MVME167 controller board entries. This is present even though the SBC card is an MVME147 card or the module is an IPE Module, and is a result of the software supporting the IPE Module and the MVME147 and MVME167 cards. Ignore the entry.

Procedure 21: Reboot and go through setup (continued)

```
-----
Found a vme332xt driver entry in /usr/src/uts/m68k/cf/master (major # 34)
Found a configured board (board 0)
Removing existing /dev/tty entries for module 1
rm -f /dev/tty1[0123456789]
Making tty entries for board 0
Ports appear on backpanel module 1/dev:
tty11 tty12 tty13 tty14 tty15 tty16 tty17 tty18 tty19 This machine has not been used as a
customer machine yet. The messages that
follow are from checking the built-in file systems for damage that might have
occurred during shipment. As long as you do not see either of the messages
BOOT SYSV68
or
FILE SYSTEM WAS MODIFIED
all is well. If either message does come out, call your service representative.
However, the machine is still usable unless you are told otherwise.
Checking file systems:

/dev/root
File System: root Volume: R3

** Phase 1 - Check Blocks and Sizes
** Phase 2 - Check Pathnames
** Phase 3 - Check Connectivity
** Phase 4 - Check Reference Counts
** Phase 5 - Check Free List
1992 files 27376 blocks 31684 free

/dev/usr
File System: usr Volume: R3

** Phase 1 - Check Blocks and Sizes
** Phase 2 - Check Pathnames
** Phase 3 - Check Connectivity
** Phase 4 - Check Reference Counts
** Phase 5 - Check Free List
2861 files 44730 blocks 327360 free

Node name set to sysV68.

Welcome!
This machine has to be set up by you. When you see the "login" message type
setup
followed by the RETURN key. This will start a procedure that leads you through
those things that should be done the "first time" the machine is used.

Until you do so, the above filesystem shipment damage check will be run
each time you boot.

mount -f $51K /dev/usr /usr
Checking for system dump ...
Expreserve notification performed.
Error logging started.
Stream Error logging started.
netspec "tcpip" not set up.
Line printer scheduler started.
The system is ready.

Console Login:
```

- 2 At the "Console Login:" prompt, type **root** and press [Return] to log in as the root user.
- 3 At the "Password:" prompt, press [Return].

The root password is reset once the application is installed.

Procedure 21: Reboot and go through setup (continued)

- 4 At the “#” prompt, type **portconfig -m** and press [Return].

```
THIS WILL REMOVE EXISTING tty NODES IN '/dev' AND
CREATE NEW ONES BASED ON THE DRIVERS CONFIGURED INTO THE
MOST RECENTLY BUILT KERNEL IN '/usr/src/uts/m68k/cf' AND THE CURRENT
HARDWARE CONFIGURATION. ARE YOU SURE THIS IS WHAT
YOU WANT TO DO?
(default = n) [y, n]:
```

- 5 If there is a tape in the drive, unlock the tape drive and remove the tape.

```
Adding m332xt Controller board 1 associated entries to /etc/inittab.
-----
Found a m564 driver entry in /usr/src/uts/m68k/cf/master (major # 40)
Found a z8530 driver entry in /usr/src/uts/m68k/cf/master (major # 33)
Found a configured board (board 0)
-----
Found a m681con driver entry in /usr/src/uts/m68k/cf/master (major # 42)
-----
Found a c240con driver entry in /usr/src/uts/m68k/cf/master (major # 45)
Adding MVME167 Controller board associated entries to /etc/inittab.
-----
Removing /dev/tty entries for non-configured back panel modules:
rm -f /dev/tty2[123456789]
rm -f /dev/tty3[123456789]
rm -f /dev/tty4[123456789]
rm -f /dev/tty5[123456789]
rm -f /dev/tty6[123456789]
rm -f /dev/tty7[123456789]
rm -f /dev/tty8[123456789]
rm -f /dev/tty9[123456789]
```

Use 'sysadm ttymgmt' to turn these entries on in /etc/inittab

Current back panel layout should be as follows:
712/147 1437/332xt

tty	cons
02	
tty	tty
03	01
ether	
net	
pr	SCSI

#

Procedure 21: Reboot and go through setup (continued)

- 7** At the “#” prompt, type **setup** and press [Return].

The setup procedure begins.

```
The first step is to set the timezone, date, and time of the system clock.  
Current time and time zone is: 12:37 EDT  
Change the time zone? [y, n, ?, q]
```

- 8** You are prompted to change the time zone. Type in your response (**y** if you wish to change the time zone, **n** if the time zone is already correct) and press [Return].

*If you typed **n**, go on to step 11 where you’re prompted to change the date and time. If you typed **y**, the time zone selection list appears.*

```
Available time zones are...  
1. Greenwich (GMT)  
2. Atlantic (AST & ADT)  
3. Eastern (EST & EDT)  
4. Central (CST & CDT)  
5. Mountain (MST & MDT)  
6. Pacific (PST & PDT)  
7. Yukon (YST & YDT)  
8. Alaska (AST & ADT)  
9. Bering (BST & BDT)  
10. Hawaii (HST)  
11. Middle European (MET)  
12. East European (EET)  
13. Set TZ variable for any other time zone info  
Enter zone number:
```

Procedure 21: Reboot and go through setup (continued)

- 9** At the “Enter zone number:” prompt, type the number corresponding to your time zone and press [Return].

If your time zone is not listed in time zones 1–12, type **13** and press [Return]. You will see explanatory messages. At the “Enter 3-letter time-zone-name” prompt (Figure 107), type three letters to represent your time zone and press [Return]. At the “Enter time difference from GMT” prompt, type the difference between your local time and Greenwich Mean Time (GMT). Use a minus if your time zone is west of GMT.

```
Enter 3-letter time-zone-name (a thru z or A thru Z)
Enter time difference from GMT (use "-" if west of GMT)
Does your time zone use Daylight Savings Time during the year? [y, n, ?, q]
```

- 10** You are prompted to indicate whether your time zone uses Daylight Savings Time during the year. Type in your response (**y** if Daylight Savings Time applies, **n** if it does not) and press [Return].

The system response reflects whether or not the Daylight Savings Time selection was changed.

```
Time zone now changed.
Note: Any logins and processes running when the time zone changes, and
all their child processes, will continue to see the old time zone.
The cron will be restarted at the end of this procedure.
Current date and time: Tue. 06/29/93 09:37
Change the date and time? [y, n, ?, q]
```


Procedure 21: Reboot and go through setup (continued)

- 11** You are prompted to change the date and time. If you do not wish to change the date and time, type **n**, press [Return], and proceed to step 17. If you wish to change the date and time, type **y** and press [Return].

```
Month      default 06      (1-12):
```

- 12** When prompted, type the number corresponding to the current month and press [Return].

```
Day        default 29      (1-31):
```

- 13** When prompted, type the date and press [Return].

```
Year       default 93      (70-99):
```

- 14** When prompted, type the year and press [Return].

```
Hour       default 09      (0-23):
```

- 15** When prompted, type the hour and press [Return].

```
Minute     default 37      (0-59):
```

Procedure 21: Reboot and go through setup (continued)

- 16** When prompted, type the minutes and press [Return].

```
Date and time will be set to: 6/29/93 09:37. OK? [y, n, q]
```

- 17** You are prompted to confirm the date and time. Type **y** and press [Return].

Once the application starts, the time will be set to the time on the Meridian 1. The system response reflects any time or time zone change with a "cron aborted" message.

```
Sat Sep 18 11:19:00 EDT 1993
The date and time are now changed.
cron aborted: SIGTERM
The cron has been restarted to pick up the new time and/or time zone.

The next step is to set up logins.
The first one you make should be for yourself.

Anytime you want to quit, type "q".
If you are not sure how to answer any prompt, type "?" for help,
or see the Administrator's Guide.

If a default appears in the question, press <RETURN> for the default.
```

Note: Ensure that you respond with **q** to the remaining prompts. Entering any other data may prevent applications from functioning properly.

```
Enter user's full name [?, q]:
```

- 18** You are prompted to enter a user login name. Type **q** and press [Return].

Procedure 21: Reboot and go through setup (continued)

```
Do you want to give passwords to administrative logins? [y, n, ?, q]
```

- 19** You are prompted to give passwords to administrative logins. Type **q** and press [Return].

```
This machine is currently called "sysV68".  
Do you want to change it? [y, n, ?, q]
```

- 20** You are prompted to change the name of the system. For security reasons, you should change the system name from the default, sysV68. Type **y** and press [Return].

```
What name do you want to give it? [q]
```

- 21** You are prompted for the new system name. Type the new name and press [Return]. Figure 121 appears.

```
This completes your initial setup of the machine. You may now log into your login.  
#
```

- 22** To install the application software, go to Procedure 22.
- 23** If you need to go to the "Console Login:" prompt (for example, if you are not installing Meridian Link or CCR immediately), type **exit** and press [Return].

Procedure 22: Load the application software from tape

Before loading the application tape (labeled Tape 2 of 2), ensure that you reboot and go through setup as described in Procedure 21. This procedure assumes you are at the “Console Login:” prompt. If you have just performed Procedure 21, you may see the “#” prompt; if so, skip steps 1 and 2 and go to step 3.

ATTENTION

If you plan to use Ethernet, ensure that your module is connected to a working Ethernet backbone.

- 1 At the “Console Login:” prompt, type **root** and press [Return] to log in as the root user.
- 2 At the “Password” prompt, press [Return].
- 3 At the root shell prompt “#”, type **sysadm** and press [Return].

```

                                SYSTEM ADMINISTRATION

1 diagnostics      system diagnostics menu
2 diskmgmt         disk management menu
3 filemgmt         file management menu
4 machinmgmt       machine management menu
5 packagemgmt      package management menu
6 softwaremgmt     software management menu
7 syssetup         system setup menu
8 ttymgmt          tty management menu
9 usermgmt         user management menu

Enter a number, a name, the initial part of a name, or
? or <number>? for HELP,  q to QUIT:
```

- 4 At the system administration menu, type **6** and press [Return].

Procedure 22: Load the application software from tape (continued)

```
SOFTWARE MANAGEMENT

1 installpkg  install new software package onto built-in disk
2 listpkg    list packages already installed
3 removepkg  remove previously installed package from built-in disk

Enter a number, a name, the initial part of a name, or
? or <number>? for HELP,  q to QUIT:
```

- 5** At the software management menu, type **1** and press [Return] to select the install option.

```
Select which drive to use:
1 ctape          2 diskette1      3 hddiskette1
Enter a number, a name, the initial part of a name, or
? for HELP,  q to QUIT:
```

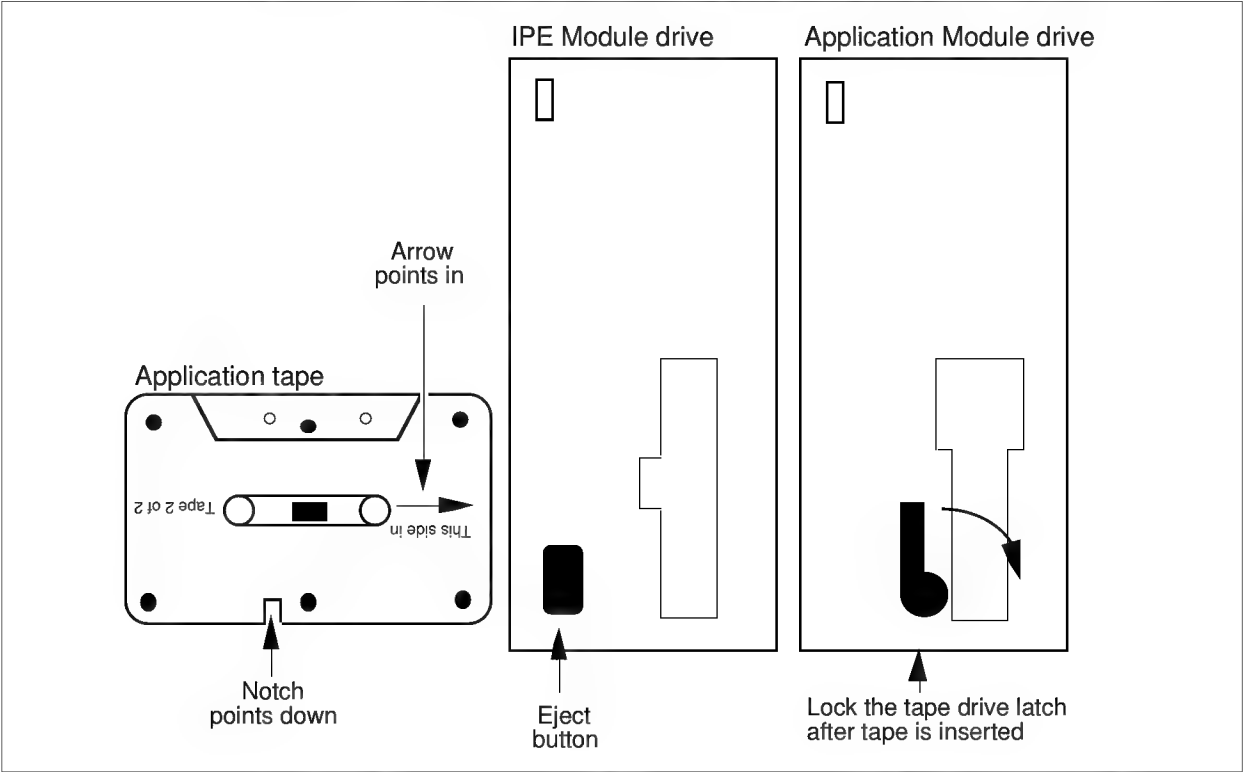
- 6** You are prompted to select a drive. Type **1** and press [Return] to select the ctape (cassette tape) option.

```
Insert the removable medium for the package you want to install
into the ctape drive.
Press <RETURN> when ready.  Type  q  to quit.
```

- 7** You are prompted to insert the medium. Insert the application tape (tape 2 of 2) into the tape drive and wait until the tape indicator light turns off.

Once the tape is inserted correctly and the latch completely closed, the tape indicator light goes on, flashes briefly, then goes off again. Wait until the light goes off before proceeding to the next step.

Procedure 22: Load the application software from tape (continued)



Procedure 22: Load the application software from tape (continued)

CAUTION

Risk of system interruption

Do not attempt to press a keyboard key until the tape active indicator light goes *from on to off* and stays off. The tape drive can enter a non-operational state if operations are attempted before the drive is completely ready.

- 8 When the tape indicator light is off, press [Return] to start the auto-loading of the application software.
The system response is "Installing Meridian Applications".
- 9 You are prompted to press [Return] to continue. Press [Return].
A series of software install messages appears for approximately 10 minutes (Figure 127). If an error occurs, contact your Nortel support personnel.

```
190 blocks
Preparing for installation. Please wait.
Preparing for installation successful.
10 blocks
30 blocks
7780 blocks
1100 blocks
110 blocks
1080 blocks
2080 blocks
430 blocks
11000 blocks
11320 blocks
```

(A series of messages appears on the screen.)

```
.
Installation Complete.
Host based X.25 is installed.

Setting file permissions and ownerships. Please wait.
Setting file permissions and ownerships completed.

06/01/94 19:56:44 Invoking maint
```

Procedure 22: Load the application software from tape (continued)

Please enter the Meridian 1 ID of this site:
(or Q or q to quit)

- 10** The system prompts you for the Meridian 1 ID. Type your ID and press [Return].

Note: If you make a mistake while typing your Meridian 1 ID or keycode, do not try to backspace and correct the error. Instead, continue until step 16, where you will be able to type n, press [Return], and return to step 10.

Note: Input for the Meridian 1 ID is case sensitive; input for the keycode is not case sensitive.

Please enter your keycode (5 groups of 4 characters):
Keycode group 1 (or Q or q to quit):

- 11** The system prompts you for your keycode. Type the first 4-character group of your keycode and press [Return].

Keycode group 2 (or Q or q to quit):

- 12** You are prompted for the second group of keycode characters. Type the second group and press [Return].

Procedure 22: Load the application software from tape (continued)

Keycode group 3 (or Q or q to quit):

- 13** You are prompted for the third group of keycode characters. Type the third group and press [Return].

Keycode group 4 (or Q or q to quit):

- 14** You are prompted for the fourth group of keycode characters. Type the fourth group and press [Return].

Keycode group 5 (or Q or q to quit):

- 15** You are prompted for the fifth group of keycode characters. Type the fifth group and press [Return].

Note: Optional feature prompts will not appear if the features were not configured in the keycode. For example, if Meridian Link was not purchased, the prompts in Figures 134, 135, and 136 will not appear.

Please enter the Meridian Link protocol, x for X.25, <cr> for TCP/IP): <cr>

Procedure 22: Load the application software from tape (continued)

- 16** If you are activating the Meridian Link application, you are prompted to enter the Meridian Link protocol.

If you are using the X.25 protocol, type **x**, press [Return], then go to step 19.

If you are using the TCP/IP protocol, press [Return], then go to step 17.

If you would like a default gateway IP address configured or changed, please enter the IP address in internet dot notation (e.g. 47.82.45.10), for no change enter <cr>:

- 17** To configure or change a default gateway IP address, type the IP address in the proper format and press [Return]. If no modification or configuration is required, simply press [Return].

If you would like a default subnet mask configured or changed, please enter the subnet mask (e.g. 255.255.0.0). For no change enter <cr>:

- 18** To configure or change a default subnet mask, type the subnet mask address in decimal format and press [Return]. If no modification or configuration is required, simply press [Return].

Procedure 22: Load the application software from tape (continued)

```
The following will be installed:
Meridian Link
Large CCR

The following packages are configured:
1
96
97
98
99
100
101

Ethernet NSE software is enabled.

Is this correct (y/n/q)?
```

The system lists the application or applications installed.

Note: Figure 137 only shows applications that have been selected; they are actually enabled when the system reboots at the end of this procedure.

19 The system prompts you to verify that the list is correct.

To check that the correct application has, or applications have, been activated, refer to the checklist (Table 12) you completed in Chapter 6, “Site survey/installation checklist” of the *Meridian Link/Customer Controlled Routing Installation and Upgrade Guide* (NTP 553-3202-210).

If the list is incorrect, type **n** and press [Return]. You are returned to step 10. If the list is correct, type **y** and press [Return].

If you did not purchase CCR or NSE, go to step 25.

If you did not purchase CCR but you have enabled NSE, go to step 21. For more information about Ethernet connections, refer to “Installing Ethernet LAN support” in Chapter 9, “Meridian Link/CCR interface cabling” of the *Meridian Link/Customer Controlled Routing Installation and Upgrade Guide* (NTP 553-3202-210).

If you have purchased CCR, go to step 20.

Procedure 22: Load the application software from tape (continued)

```
Please enter the CCR customer number (0-99):
```

- 20** You are prompted to enter your CCR customer number (Figure 138). Type the number and press [Return].

Note: A two-minute pause occurs at this point before the following messages appear.

```
Installing NSE R3V7.1. Please wait.  
Is your module connected to the Ethernet (y/n) ?
```

- 21** You are asked whether your Application Module or IPE Module is connected to Ethernet (Figure 139).

For more information about Ethernet connections, refer to Chapter 9, “Meridian Link/CCR interface cabling” chapter of the *Meridian Link/Customer Controlled Routing Installation and Upgrade Guide* (NTP 553-3202-210).

If your module is not connected to Ethernet, type **n** and press [Return]. Go to step 25.

If you are connected to Ethernet and *you plan to use it in the near future*, type **y** and press [Return]. You see a message asking you to wait. Then you see more installation messages (Figure 140). Go to step 22.

If you are connected to Ethernet *but do not plan to use it in the near future*, you may choose to type **n** and press [Return]. Disabling Ethernet support increases the processing power available to your application(s). Go to step 25.

Procedure 22: Load the application software from tape (continued)

ATTENTION

If you disable Ethernet support, you must perform a complete reinstallation of the base operating system and application(s) before you can reenale Ethernet support.

```
Configuring your system for NSE. Please wait.
/usr/src/uts/m68k/sysgen/sysgen -l /usr/src/uts/m68k/sysgen -big
make -f io.mk MAKE=make FRC= DASHG= DASHO=-O INCRT=/usr/include
LIBDIR=../cf SYS= CFLAGS=-O -I/usr/include -DLAI -DINKERNE
L -DSTREAMS -DBRIDGE CPU=m68k CC=/bin/pcc/cc
make -f scsi.mk "MAKE=make" "CC=/bin/pcc/cc" "FRC=" "INCRT=/usr/include"
"DASHO=-O" "CFLAGS=-O" -I/usr/include -DLAI -DINKER
.
.
.

Warning: ./config.h: 358: NBLK4 redefined
rm -f sysV68 sysV68.nm
ld -o sysV68 ld.VME131 m68kvec.o low.o conf.o lib.io lib.ml lib.os
lib.s5 lib.bpp lib.fpack lib.nosrc lib.fpsp lib.du lib.tc
pip lib.nfs lib.bppv2 lib.c37x lib.kdb lib.lnc lib.nsedebug lib.sbc lib.scsi
lib.wan lib.x25 lib.stub lib.io lib.ml lib.os
lib.s5 lib.bpp lib.fpack lib.nosrc lib.fpsp lib.du lib.tcpip lib.nfs lib.bppv2
lib.c37x lib.kdb lib.lnc lib.nsedebug lib.sbc lib.scs
i lib.wan lib.x25 lib.stub
mcs -da "SYSTEM V/68 - R3V7" sysV68
chmod 755 sysV68
../kdb/kdbnm -q sysV68
../kdb/kdbnm: not enough space for symbol table
../kdb/kdbnm: need total of 145908 bytes at k_syntab
../kdb/kdbnm: 135168 bytes were reserved for symbols, 135168 bytes were used
sysV68 made.

ADD MODULE NAME AND ADDRESS TO TCP/IP TRANSPORT PROVIDER DATABASE

If you are not sure how to answer any prompt, type "?" for HELP.

Your module's system is currently the default name. We recommend that you change it to
avoid possible name conflicts.

Enter the MODULE NAME to be added to the tcpip transport provider database
(?, or module name):
```

Procedure 22: Load the application software from tape (continued)

- 22** You are prompted for the name of the Application Module or IPE Module. (The term “module name” refers to an Ethernet host computer, which in this case is the Application Module or IPE Module.) Type the module name and press [Return]. The module name must not exceed eight alphanumeric characters. For more information about module names, consult your network administrator.

Enter the MODULE ADDRESS to be added to the tcpip transport provider database (?, or module address):

- 23** You are prompted for the address of the Application Module or IPE Module (Figure 142). Type the module address and press [Return]. The module address must be four numbers separated by periods, such as “12.234.67.89”. For more information about module addresses, consult your network administrator.

If you made any mistakes in entering the module name and IP address, you can correct them. Would you like to re-enter the module name or IP address? [y,n]:

- 24** You are asked whether you want to reenter the module name or address (Figure 143).
If you have not made a mistake, type **n** and press [Return]. Go to step 25.
If you want to reenter the module name and address, type **y** and press [Return]; you will return to step 22.

Procedure 22: Load the application software from tape (continued)

```
Entry for <module name> with address <address> added to tcpip transport provider database.  
Now your system has been modified. You must reboot the system to have the new kernel take  
effect.  
Would you like to reboot the system now (y/n) ?
```

25 You are prompted to reboot the system (Figure 144). Type **y** and press [Return].

```
INIT: New run level: 6  
The system is coming down. Please wait.  
System services are now being stopped.  
Terminating Applications  
/usr/bin/maint: /dev/tty: cannot create  
cron aborted: SIGTERM  
  
The system is down.  
  
NOTICE: System Reboot Requested (0)
```

The system clears and the following messages appear.

Note: The following figure is illustrative only. Your messages may be different depending on the application(s) purchased.

Procedure 22: Load the application software from tape (continued)

```
Copyright Motorola Inc. 1988 - 1992, All Rights Reserved
M4120 Debugger/Diagnostics Release Version 1.1 - 09/30/92 (IR01)
COLD Start

Local Memory Found =01000000 (&16777216)

MPU Clock Speed =25Mhz

Autoboot in progress... To abort hit <BREAK>
Booting from: M4120, Controller 0, Drive 0
Loading: Operating System

.                                     (diagnostic messages)
.
Initializing For Applications
    Configure Link 0 : successful
    Enable Link 0 : successful
    Application release successful
Starting Applications
06/01/94 20:55:53 Starting CCR Application...
Starting Customer Controlled Routing Processes...

Performing modem reset...
Connected
Sending atz
to the device.
Done modem reset.
The system is ready.

Console Login:
```

26 Remove the application tape from the cassette tape drive.

The appearance of the "Console Login:" prompt indicates that the new application software is now installed. You may now log in to the system to perform other commands. You may also restore configuration files and data files from backup if necessary (Procedure 24: Restore configuration files and data files from the backup tape).

Procedure 23: Back up configuration files and data files

- 1 At the Console Login: prompt, type **maint** (if you are not already logged in) and press [Return]. The default password is **maint**.
- 2 Insert the backup tape into the drive.

Ensure that the tape is a backup tape and not a system tape, because any information on the tape will be overwritten by the backup. Ensure that the tape is not write-protected.

Note: Ensure you use the correct backup tape. An Application Module uses a 155-Mbyte tape. An IPE Module uses a 600-Mbyte tape.

- 3 At the “maint>” prompt, type **backdata** and press [Return] to start the backup process.

```
Files will be backed-up from:
/usr/maint/files/AMprofile
/usr/maint/files/AutoStart
/usr/maint/files/IncrDY
/usr/maint/files/IncrTM
/usr/maint/files/Port
/usr/maint/files/Prefs
/usr/maint/files/Speed
:
:
```

(Actual list of directories may differ depending on the application)

```
Make sure tape is in drive
When ready, enter 'y' to continue, or 'n' to quit: [y,n]
```

- 4 You are prompted to continue the backup process. Wait until the tape LED goes off before typing **y** and pressing [Return].

Various messages appear; the backup is complete when the message “Backup successful” appears.

Procedure 23: Back up configuration files and data files (continued)

```
Starting backup
c 4k of 6k [1] usr/maint/files/AMprofile
c 4k of 10k [1] /usr/maint/files/AutoStart
c 4k of 14k [1] /usr/maint/files/IncrDY
c 4k of 18k [1] /usr/maint/files/IncrTM
c 4k of 22k [1] /usr/maint/files/Port
c 4k of 26k [1] /usr/maint/files/Prefs
c 4k of 30k [1] /usr/maint/files/Speed
.
.
.
Backup successful
maint>
```

- 5 At the “maint>” prompt, type **exit** and press [Return] to log out of maint.
- 6 Unlock the tape drive and remove the cassette tape. Keep this and all your backup tapes in a safe place in case you need to use them again.

Procedure 24: Restore configuration files and data files from the backup tape

- 1 At the “Console Login:” prompt, type **maint** and press [Return].
- 2 You are prompted for a password. Type the password and press [Return]. The default password is **maint**.
- 3 At the “maint>” prompt, type **rstdata** and press [Return].

Prompts similar to the following appear:

```
Make sure tape is in drive
When ready, enter 'y' to continue, or 'n' to quit:    [y,n]
```

- 4 You are prompted to prepare the tape drive. Insert the most recent backup tape for your application data.

Note: Wait until the tape indicator light turns off before proceeding to the next step:

- 5 When the tape is ready, type **y** and press [Return].

```
The restore will not succeed with an application running.
Enter 'y' to stop the application(s) and continue, or 'n' to quit:    [y,n]
```

- 6 If an application is not running, go to step 7. If an application is running, you will be prompted to stop all applications. Type **y** and press [Return].

Procedure 24: Restore configuration files and data files from the backup tape (continued)

```
Stopping application(s)
02/02/94 16:00:27 Notifying CCR of Shutdown...
02/02/94 16:00:37 Stopping CCR application

Release Communication Resources...

Please wait while tape file list is extracted.
```

You may be prompted about restoring link control files (Figure 152).

```
Link control files are present in this Restore list.
Do you want to restore link control files (y/n)?
```

- 7** If you have already configured the links for Release 3 (refer to the chapter on “Link configuration” in the *Meridian Link/Customer Controlled Routing Installation and Upgrade Guide* [NTP 555-3202-210]) and you do not want to overwrite them with backed-up Release 2 configuration, type **n** and press [Return].

If you have not configured the links for Release 3, or if you wish to restore the Release 2 configurations, type **y** and press [Return].

Procedure 24: Restore configuration files and data files from the backup tape (continued)

```
Files will be restored to:
/usr/maint/files/AMprofile
/usr/maint/files/AutoStart
/usr/maint/files/IncrDY
/usr/maint/files/IncrTM
/usr/maint/files/Port
/usr/maint/files/Prefs
/usr/maint/files/Speed
/usr/maint/conf/hdlchlnk.dataf
/usr/maint/conf/hdlcmlnk.dataf
/usr/maint/conf/lh.config
/usr/mlusr/conf/loop13DCE.d
/usr/mlusr/conf/loop13DTE.d
/usr/mlusr/conf/loop31DCE.d
/usr/mlusr/conf/loop31DTE.d
/usr/mlusr/conf/tscfg.datafile
/usr/mlusr/conf/vlink.datafile
/usr/mlusr/conf/x25bcf333.2
/usr/mlusr/conf/x25hlink.datafi
```

(Actual list of directories may differ depending on the application)

Please enter 'y' to do restore, or 'n' to quit: [y,n]

- 8 You are prompted to restore the files. Type **y** and press [Return].

Various prompts appear, followed by the message “Restore successful” when the procedure is completed (Figure 154).

Note: The following figure is illustrative only. It shows restoration messages for Meridian Link. If you are restoring for CCR, your messages will be different.

Procedure 24: Restore configuration files and data files from the backup tape (continued)

```
Starting restore
x 4k of 6k [1] usr/maint/files/AMprofile
x 4k of 10k [1] /usr/maint/files/AutoStart
x 4k of 14k [1] /usr/maint/files/IncrDY
x 4k of 18k [1] /usr/maint/files/IncrTM
x 4k of 22k [1] /usr/maint/files/Port
x 4k of 26k [1] /usr/maint/files/Prefs
x 4k of 30k [1] /usr/maint/files/Speed
x 4k of 34k [1] /usr/maint/conf/hdlchlnk.dataf
x 4k of 38k [1] /usr/maint/conf/hdlcmlnk.dataf
x 4k of 42k [1] /usr/maint/conf/lh.config
x 4k of 46k [1] /usr/mlusr/conf/loop13DCE.d
x 4k of 50k [1] /usr/mlusr/conf/loop13DTE.d
x 4k of 54k [1] /usr/mlusr/conf/loop31DCE.d
x 4k of 58k [1] /usr/mlusr/conf/loop31DTE.d
x 4k of 62k [1] /usr/mlusr/conf/tscfg.datafile
x 4k of 66k [1] /usr/mlusr/conf/vlink.datafile
x 6k of 72k [1] /usr/mlusr/conf/x25bcf333.2
x 4k of 76k [1] /usr/mlusr/conf/x25hlink.datafi
Restore successful
Configuration changed, restarting link processes.
Configure Link 0 : successful
Configure Link 1 : successful
Configure Link 2 : successful
Enable Link 0 : successful
Enable Link 1 : successful
Enable Link 2 : successful
Link 0 : enabled but down
Link 1 : enabled but down
Link 2 : enabled but down
Link 0 : up
Link 1 : up
Link 2 : up
Application release successful
```

- 9 If, in step 6, you stopped any applications, you are prompted to restart them. Type **y** and press [Return] to restart the applications.
- 10 Unlock the tape drive and remove the cassette tape. Keep this, and label it with the date, and store it with all your backup tapes in a safe place in case you need to use it again.

Procedure 25: Enable or disable Ethernet LAN support

Before you enable or disable Ethernet LAN support, ensure that all applications have been stopped.

This procedure can be used to enable or disable Ethernet LAN support. The example shown in the following procedure is for enabling the support.

- 1 Type **maint** and press [Return] at the “Console Login:” prompt to log in as the maintenance user.
- 2 You are prompted to enter a password. Type the password for the maint account and press [Return]. The initial password for maint is **maint**.
- 3 At the “maint>” prompt, type **install** and press [Return].

```
You can reconfigure the system using a keycode without a tape or you can use a tape to
upgrade the software and reconfigure.
Do you want to use a tape (y/n/q)?
```

- 4 You are prompted to use a tape (Figure 155). Type **n** and press [Return].

```
Please enter the Meridian ID of this site:
(or Q or q to quit)
```

- 5 You are prompted to enter your Meridian 1 ID (Figure 156). Type your ID and press [Return].

Procedure 25: Enable or disable Ethernet LAN support (continued)

Note: If you make a mistake while typing your Meridian ID or keycode, do not try to backspace and correct the error. Instead, continue until step 12, where you will be able to type n, press [Return] and return to step 6.

Note: Input for the Meridian ID is case sensitive; input for the keycode is not case sensitive.

```
Please enter your keycode (5 groups of 4 characters each):  
Keycode group 1 (or Q or q to quit):
```

- 6** You are prompted to enter your keycode (Figure 157). Type the first 4-character group of your keycode that will enable Ethernet LAN support and press [Return].

```
Keycode group 2 (or Q or q to quit):
```

- 7** You are prompted to enter the second group of keycode characters. Type the second group and press [Return].

```
Keycode group 3 (or Q or q to quit):
```

- 8** You are prompted to enter the third group of keycode characters. Type the third group and press [Return].

Procedure 25: Enable or disable Ethernet LAN support (continued)

```
Keycode group 4 (or Q or q to quit):
```

- 9** You are prompted to enter the fourth group of keycode characters. Type the fourth group and press [Return].

```
Keycode group 5 (or Q or q to quit):
```

- 10** You are prompted to enter the fifth group of keycode characters. Type the fifth group and press [Return].

Note: Optional feature prompts will not appear if the features were not configured in the keycode. For example, if Meridian Link was not purchased, the prompts in Figures 162, 163, and 164 will not appear.

```
Please enter the Meridian Link protocol, x for X.25, <cr> for TCP/IP):
```

- 11** If you are activating the Meridian Link application, you are prompted to enter the Meridian Link protocol.

If you are using the X.25 protocol, type **x**, press [Return], then go to step 14.

If you are using the TCP/IP protocol, press [Return], then go to step 17.

Procedure 25: Enable or disable Ethernet LAN support (continued)

If you would like a default gateway IP address configured or changed, please enter the IP address in internet dot notation (e.g. 47.82.45.10), for no change enter <cr>:

- 12 To configure or change a default gateway IP address, type the IP address in the proper format and press [Return]. If no modification or configuration is required, simply press [Return].

If you would like a default subnet mask address configured or changed, please enter the subnet mask address in decimal, for no change enter <cr>:

- 13 To configure or change a default subnet mask, type the subnet mask address in decimal format and press [Return]. If no modification or configuration is required, simply press [Return].

The following applications are configured:
Meridian Link
Large CCR

The following packages are configured:
1
96
97
98
99
100
101

Ethernet NSE software is enabled.

Is this correct (y/n/q)?

The system lists the application or applications installed.

Note: Figure 165 only shows applications that have been selected; they are actually enabled when the system reboots at the end of this procedure.

Procedure 25: Enable or disable Ethernet LAN support (continued)

14 The system prompts you to verify that the list is correct.

To check that the correct application has, or applications have, been activated, refer to the checklist (Table 12) you completed in Chapter 6, “Site survey/installation checklist” of the *Meridian Link/Customer Controlled Routing Installation and Upgrade Guide* (NTP 553-3202-210).

If the list is incorrect, type **n** and press [Return]. You are returned to step 6. Re-key your Meridian ID and keycode. If the list of applications is still incorrect, type **q** and press [Return]. The message “Software not configured” appears. Call your Nortel support personnel for a new keycode.

If the list is correct, type **y** and press [Return].

If you did not purchase CCR or NSE, go to step 20.

If you did not purchase CCR but you have enabled NSE, go to step 16. For more information about Ethernet connections, refer to “Installing Ethernet LAN support” in Chapter 9, “Meridian Link/CCR interface cabling” of the *Meridian Link/Customer Controlled Routing Installation and Upgrade Guide* (NTP 553-3202-210).

If you have purchased CCR, go to step 15.

```
Please enter the CCR customer number (0-99):
```

15 You are prompted to enter your CCR customer number (Figure 166). Type the number and press [Return].

Note: A two-minute pause occurs at this point before the following messages appear.

```
Installing NSE R3V7.1. Please wait.  
Is your module connected to the Ethernet (y/n) ?
```

Procedure 25: Enable or disable Ethernet LAN support (continued)

- 16** You are asked whether your Application Module or IPE Module is connected to Ethernet (Figure 167).

For more information about Ethernet connections, refer to “Meridian Link/CCR interface cabling” chapter of the *Meridian Link/Customer Controlled Routing Installation and Upgrade Guide* (NTP 553-3202-210).

If your module is not connected to Ethernet, type **n** and press [Return]. Go to step 20.

If you are connected to Ethernet and *you plan to use it in the near future*, type **y** and press [Return]. You see a message asking you to wait. Then you see more installation messages (Figure 168). Go to step 22.

If you are connected to Ethernet *but do not plan to use it in the near future*, you may choose to type **n** and press [Return]. Disabling Ethernet support increases the processing power available to your application(s). Go to step 20.

ATTENTION

If you disable Ethernet support, you must perform a complete reinstallation of the base operating system and application(s) before you can reenable Ethernet support.

Procedure 25: Enable or disable Ethernet LAN support (continued)

```
Configuring your system for NSE. Please wait.
/usr/src/uts/m68k/sysgen/sysgen -l /usr/src/uts/m68k/sysgen -big
make -f io.mk MAKE=make FRC= DASHG= DASHO=-O INCRT=/usr/include
LIBDIR=../cf SYS= CFLAGS=-O -I/usr/include -DLAI -DINKERNE
L -DSTREAMS -DBRIDGE CPU=m68k CC=/bin/pcc/cc
make -f scsi.mk "MAKE=make" "CC=/bin/pcc/cc" "FRC=" "INCRT=/usr/include"
"DASHO=-O" "CFLAGS=-O -I/usr/include -DLAI -DINKER"
.
.
.

Warning: ./config.h: 358: NBLK4 redefined
rm -f sysV68 sysV68.nm
ld -o sysV68 ld.VME131 m68kvec.o low.o conf.o lib.io lib.ml lib.os
lib.s5 lib.bpp lib.fpack lib.nosrc lib.fpsp lib.du lib.tc
pip lib.nfs lib.bppv2 lib.c37x lib.kdb lib.lnc lib.nsedebug lib.sbc lib.scsi
lib.wan lib.x25 lib.stub lib.io lib.ml lib.os
lib.s5 lib.bpp lib.fpack lib.nosrc lib.fpsp lib.du lib.tc pip lib.nfs lib.bppv2
lib.c37x lib.kdb lib.lnc lib.nsedebug lib.sbc lib.scs
i lib.wan lib.x25 lib.stub
mcs -da "SYSTEM V/68 - R3V7" sysV68
chmod 755 sysV68
../kdb/kdbnm -q sysV68
../kdb/kdbnm: not enough space for symbol table
../kdb/kdbnm: need total of 145908 bytes at k_syntab
../kdb/kdbnm: 135168 bytes were reserved for symbols, 135168 bytes were used
sysV68 made.

ADD MODULE NAME AND ADDRESS TO TCPIP TRANSPORT PROVIDER DATABASE

If you are not sure how to answer any prompt, type "?" for HELP.

Your module's system is currently the default name. We recommend that you change it to
avoid possible name conflicts.

Enter the MODULE NAME to be added to the tcpip transport provider database
(?, or module name):
```

- 17** You are prompted for the name of the Application Module or IPE Module. (The term "module name" refers to an Ethernet host computer, which in this case is the Application Module or IPE Module.) Type the module name and press [Return]. The module name must not exceed eight alphanumeric characters. For more information about module names, consult your network administrator.

Procedure 25: Enable or disable Ethernet LAN support (continued)

```
Enter the MODULE ADDRESS to be added to the tcpip transport provider database (? , or module address):
```

- 18** You are prompted for the address of the Application Module or IPE Module (Figure 170). Type the module address and press [Return]. The module address must be four numbers separated by periods, such as “12.234.67.89”. For more information about module addresses, consult your network administrator.

```
If you made any mistakes in entering the module name and IP address, you can correct them.
Would you like to re-enter the module name or IP address? [y,n]:
```

- 19** You are asked whether you want to reenter the module name or address (Figure 171).
If you have not made a mistake, type **n** and press [Return]. Go to step 20.
If you want to reenter the module name and address, type **y** and press [Return]; you will return to step 17.

```
Entry for <module name> with address <address> added to tcpip transport provider database.
Now your system has been modified. You must reboot the system to have the new kernel take
effect.
Would you like to reboot the system now (y/n) ?
```

Procedure 25: Enable or disable Ethernet LAN support (continued)

20 You are prompted to reboot the system (Figure 172). Type **y** and press [Return].

Application shutdown and start-up messages appear. Eventually the "Configuration successful" message appears (Figure 173)

```
Configuration  successful
```